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National Archives of Australia

Digital Preservation Recorder 6.0.0

User Manual

Version 1.5

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the archives

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Document Change Record

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Glossary

Term	Definition
AIP	Archival Information Package: A data object with metadata, in a preservation format.
Barcode Number	See Item Number
Binary Normalisation	Process to prepare a Data Object for archiving by adding an XML wrapper but not otherwise changing the original data.
Carrier Device	As each stage of DPR (QF, PF and DR) is completely isolated, a physical storage device is required to transfer data from one stage to another.
Checksum	A numerical value calculated from the contents of a data object. By comparing a recently determined checksum with an older one, you can tell if the data object has changed.
Checksum Checker	Software that monitors the Digital Archive for data loss or corruption. Required for the DR facility to compile reports from the Digital Archive.
ClamAV	Open source anti-virus software.
Controlling Agency	The organisation that transfers the original data objects that are to be archived. Also responsible for creating manifest file and item list.
Digital Archive	Permanent storage for Digital Archival material. The Digital Archive is accessed through the Digital Repository (DR) stage of DPR.
Data Object	A single record (file or document) to be archived. Once normalised, it becomes an AIP. A Submission Information Package (SIP) in OAIS terms.
Digital Preservation Recorder	Software that manages the workflow for the National Archives' digital archiving process. Consists of three distinct stages: • Quarantine Facility • Preservation Facility • storage in the Digital Archive.
Digital Repository	Third stage in the DPR workflow. Copies normalised data from the Carrier Device into the Archive. Also includes functions for managing and displaying DPR process metadata.
DPR	See Digital Preservation Recorder
DR	See Digital Repository

Term	Definition
Export File	File recorded by QF and PF on the carrier device. The Export File contains the Transfer Job's preservation metadata.
FakeScanner	Software that simulates the behaviour of an anti-virus program. FakeScanner can be used to test DPR without the need for ClamAV.
Ingest	Within the DPR workflow, 'Ingest' refers only to the process of copying a transfer job into the Digital Repository.
Input Media	Storage media containing the initial transfer job (data objects and manifest file) from the controlling agency.
Input Carrier	At any stage, a DPR workstation will usually have two carrier devices attached. The input carrier is the device that the objects to be processed are taken from.
Item Number	The 'Item' is the fundamental unit of archived material. An Item is uniquely identified by the Item Number. A single Item can include any number of data objects, each of which is assigned the same item number. The item number is the same as the item barcode number in RecordSearch.
Manifest File	A machine-readable list of data objects in a transfer job, along with their allotted barcode number and a unique identifier. The manifest file is created outside of the DPR workflow.
Metadata	Data <i>about</i> other data. DPR collects and makes available information about the following: • contents of items, data objects and AIPs • events in the processing of transfer jobs (actions taken, dates, results) • user activity.
MIME type	"Multi-purpose Internet Mail Extensions" – Internet standard allowing email to support attachments and non ASCII text. Defines the kind of data formatting used by a particular data Object.
Normalisation	Conversion of a data object into an open standards based format. For example, converting Microsoft Word format (.doc) into Open Document text format (.odt). Normalised files are created with an XML wrapper which contains the preservation metadata.
Output Carrier	At any stage, a DPR workstation will usually have two carrier devices attached. The output carrier is the device that the processed objects are recorded into.

Term	Definition
PF	See Preservation Facility
Preservation Facility	Second stage of DPR workflow. Includes binary normalisation, normalisation and quality assurance.
Program Association	Each file or MIME type is 'associated' with specific software that is able to display the original (un-normalised) version of that file.
Quarantine	Before data can be normalised and archived, it must be scanned for viruses and stored on an isolated carrier for 28 days before a second virus and checksum check.
QF	See Quarantine Facility
Quarantine Facility	Initial stage of DPR workflow includes manifest file processing, pre-quarantine processing and post-quarantine processing.
RecordSearch	The National Archives' records database. Objects in the collection (including data objects) are identified by the item/barcode number.
Reprocessing Job	If the policy or technology for normalising a particular file type changes, AIPs of that type can be retrieved from the Digital Archive and processed again according to the new circumstances. A reprocessing job functions the same as a transfer job, but contains AIPs from the archive.
Reprocessing Job Number	Unique identifier for each reprocessing job.
Reprocess Transfer Job	If a transfer job encounters a serious failure in PF or DR, it can be returned to a previous DPR facility to be processed again.
Transfer Job	A grouping of data objects for archiving. A transfer initially comprises one or more data objects and a manifest file.
Transfer Job Number	Unique identifier for each transfer job. The transfer job number is allocated by RecordSearch.
Xena	File normalisation software. Xena functionality is integrated in to the PF stage of DPR. Xena can also be used as a stand-alone product.

Related Documentation

Title	Author	Date	RKS
An Approach to the Preservation of Digital Records	Helen Heslop Simon Davis Andrew Wilson	December 2002	
Checksum Checker User Manual	Allan Cunliffe	April 2010	2009/4025
Digital Preservation Recorder Functional Requirements v 3.0	Andrew Keeling	March 2007	
Digital Preservation Recorder User Manual v3.0	John Lovejoy	August 2007	
Digital Preservation Recorder User Requirements	James Doig	July 2007	R494782007
Digital Preservation Recorder Reference Specification	Ian Little	July 2008	R598352008
Manifest Maker User Manual	Allan Cunliffe	March 2010	2009/4025

Table of Contents

1.	OVERVIEW.....	10
1.1	Methodology.....	10
1.2	Structure.....	10
1.3	Links with RecordSearch.....	11
1.4	Digital Preservation Workflow.....	11
1.4.1	Controlling Agency.....	11
1.4.2	Quarantine Facility	11
1.4.3	Preservation Facility	11
1.4.4	Digital Repository	11
1.4.5	Workflow Diagram.....	12
1.5	Reporting.....	13
1.6	Metadata.....	13
1.7	Access.....	13
1.8	Reprocessing.....	13
2.	LOG ON.....	14
2.1	Log on to DPR.....	14
2.2	Logon Details.....	15
3.	BASIC INTERFACE FEATURES.....	16
3.1	Title Bar.....	16
3.2	Select Transfer Job Window.....	16
3.2.1	Display.....	16
3.2.2	Filtering the Display.....	17
3.2.3	Sorting the Display.....	18
3.2.4	Selecting a Transfer Job.....	18
3.3	Actions Menu.....	19
3.3.1	Change Password.....	19
3.3.2	Log Out.....	20
3.3.3	Quit.....	20
3.4	Other Menus.....	21
3.5	Processing Window.....	22
3.5.1	Start / resume processing.....	23
3.5.2	Pause Processing.....	23
3.5.3	Exiting the Process Window.....	24
3.6	Expanding Error Messages.....	24
4.	QUARANTINE FACILITY.....	25
4.1	Overview.....	25
4.2	Process.....	25
4.2.1	Register Transfer Job.....	26
4.2.2	Pre-Quarantine.....	27

4.2.3 Post Quarantine.....	29
4.2.4 Export Transfer Job.....	31
5. PRESERVATION FACILITY.....	32
5.1 Overview.....	32
5.1.1 Normalisation and AIPs.....	32
5.1.2 Binary Quality Assurance.....	33
5.1.3 Quality Assurance.....	33
5.2 Process.....	34
5.2.1 Import Transfer Job.....	35
5.2.2 Normalisation.....	36
5.2.3 Advanced Normalisation.....	38
5.2.4 Quality Assurance Process.....	41
5.2.5 Export Transfer Job.....	44
6. DIGITAL REPOSITORY.....	45
6.1 Overview.....	45
6.2 Process.....	45
6.2.1 Import Transfer Job.....	45
6.2.2 Copy to Archive.....	46
7. DIGITAL REPOSITORY TASKS.....	48
7.1 Overview.....	48
7.2 Access Digital Repository Task Panel.....	49
7.3 Reprocessing from the Archive.....	50
7.4 Copy for Access.....	54
7.5 Retrieve and View Metadata.....	57
7.5.1 Access the Retrieve and View Data Window.....	57
7.5.2 Data Object.....	58
7.5.3 Archival Information Package.....	60
7.5.4 Transfer Job.....	62
7.5.5 Reprocessing Job.....	63
7.6 Change Item Numbers.....	63
8. REPORTS.....	66
8.1 Overview.....	66
8.2 Available Reports.....	66
8.3 Checksum Checker.....	66
8.4 Produce a Report.....	67
8.5 Produce Multiple Reports.....	70
9. ADMINISTRATION.....	72
9.1 Administer Users.....	72
9.1.1 Add User.....	73
9.1.2 Edit User.....	74
9.1.3 Export User List.....	76

9.1.4 Import User List.....	77
9.2 Administer Transfer Jobs.....	79
9.2.1 Change Transfer Job Number.....	79
9.2.2 Delete Transfer Job.....	80
9.2.3 Export Transfer Job.....	81
9.2.4 Restart Transfer Job.....	82
9.2.5 Reprocess Transfer Job.....	84
9.3 View Metadata.....	86
10. APPENDIX A: DPR SOFTWARE CONFIGURATION.....	88
10.1 Quarantine Facility.....	88
10.2 Preservation Facility.....	89
10.2.1 Xena Settings.....	89
10.2.2 Configure Program Associations.....	91
10.3 Digital Repository.....	94
11. APPENDIX B: TROUBLESHOOTING.....	95
11.1 Virus Scanner.....	96
11.1.1 Install the Correct Antivirus Software.....	96
11.1.2 Start ClamAV Daemon.....	96
11.1.3 Set the Correct Virus Scanner Port.....	96
11.1.4 Alter the Permissions or Security Policy.....	97
11.2 Reject Job.....	97
11.3 Reset Step.....	99
11.4 Restart Job.....	100
11.5 Return for Reprocessing.....	101
11.6 Manifest File Error.....	103
11.6.1 File missing from manifest.....	103
11.6.2 Extra files found on media.....	104

1 Overview

The DPR provides the workflow and functionality to convert, store and retrieve data objects. The National Archives' process is based around three separate stages:

- Quarantine Facility (QF)
- Preservation Facility (PF)
- Digital Repository (DR).

The DPR uses Xena digital preservation software to convert files into preservation formats. Xena is another digital preservation tool developed by the National Archives.

1.1 Methodology

The National Archives' approach to the preservation of data objects is to convert them into openly specified file formats to ensure access to their contents in the future. The open formats are based on standards, have full specifications that are publicly documented and are interoperable with a range of software applications.

The Digital Preservation Recorder (DPR) provides the workflow and functionality to convert, store and retrieve data objects. The use of open file formats allows others to build tools capable of presenting or re-purposing data preserved by the National Archives.

1.2 Structure

The DPR is a software tool designed to closely reflect the physical infrastructure of the National Archives' Digital Archive.

The process is based around three separate computer systems, each with its own database and workstations. These three systems are known as:

- Quarantine Facility (QF)
- Preservation Facility (PF)
- Digital Repository (DR).

The DR stage of processing transfers digital items to the Digital Archive for long term storage.

To maintain the security of the records, the three facilities are not connected to the world at large or to each other. In order to move transfer data from one facility to another it must be copied onto a carrier device (typically a portable hard drive), physically moved from one workstation to another and copied onto the next facility.

1.3 Links with RecordSearch

RecordSearch is the National Archives' record management system. Items in the Digital Archive have two links to RecordSearch:

- transfer job number
- item number (barcode number).

The transfer job number is represented by the year of entry followed by a slash and an eight digit number (for example, 2009/00290669). The transfer job number represents one or more items transferred into the Digital Archive at the same time.

The item/barcode number identifies a single item on RecordSearch. An item will normally be made up of many data objects. Each data object within an item is given the same item number.

1.4 Digital Preservation Workflow

The following list contains all stages in the digital preservation workflow.

1.4.1 Controlling Agency

The following need to be performed by the agency that provides the data to be archived:

1. Copy data objects onto input media.
2. Create manifest file listing data objects and providing Item Number and MD5 checksum for each data object.
3. Create item list for upload into RecordSearch.

Note: National Archives can provide agencies with the Manifest Maker software to perform these functions. See *Manifest Maker User Manual*.

1.4.2 Quarantine Facility

The steps involved in the QF stage of processing are described in section 4, *Quarantine Facility*.

1.4.3 Preservation Facility

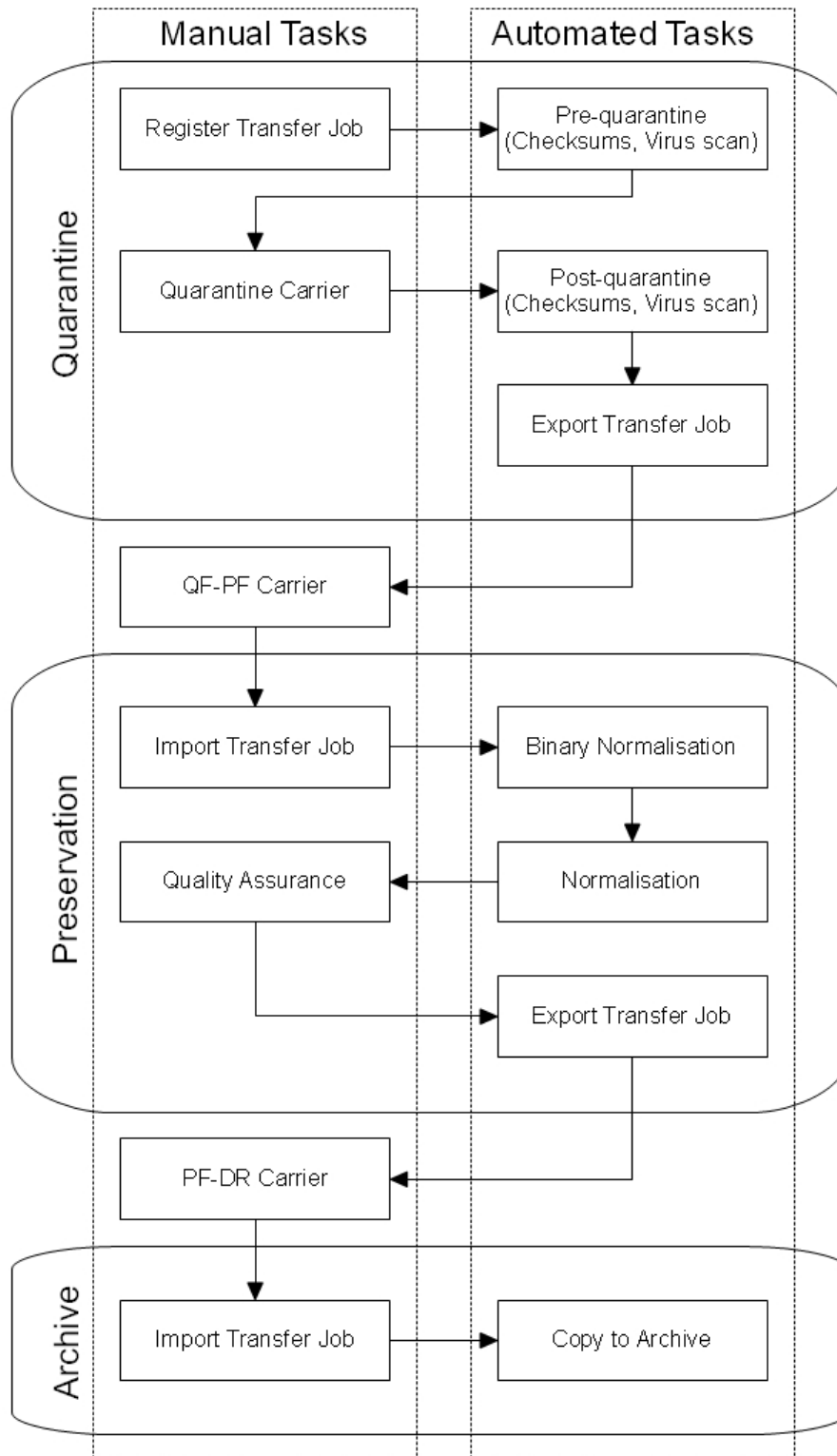
The steps involved in the PF stage of processing are described in section 5, *Preservation Facility*.

1.4.4 Digital Repository

The steps involved in the DR stage of processing are described in section 6, *Digital Repository*.

1.4.5 Workflow Diagram

The following diagram describes the DPR workflow across the three processing stages.



1.5 Reporting

Each DPR facility (QF, PF and DR) can produce reports on transfer jobs that have been processed by that facility. Reports can be made on transfer jobs by status, user and time, as well as some facility specific reports (such as the *Rejected Transfer Jobs* report in QF).

1.6 Metadata

The DPR records metadata at several levels:

- activity/audit trail information for transfer jobs
- individual data object information
- individual AIP information.

Each DPR facility (QF, PF and DR) records audit information for the processing done in that facility and also holds the data imported from the previous facilities. The complete set of processing data is available from DR. DR also holds metadata about each of the data objects stored in the Digital Archive.

1.7 Access

Copies of data objects stored in the Digital Archive can be obtained using the DR facility. To gain access to an object or objects you need the item number/barcode or transfer job number. Data objects copied from the Digital Archive are provided in the format: *<filename>.xena*. Xena or Xena Viewer software are required to read or extract *.xena* files.

1.8 Reprocessing

If the need arises, the DPR can access all archived objects of a particular MIME type and re-process them through PF.

2 Log On

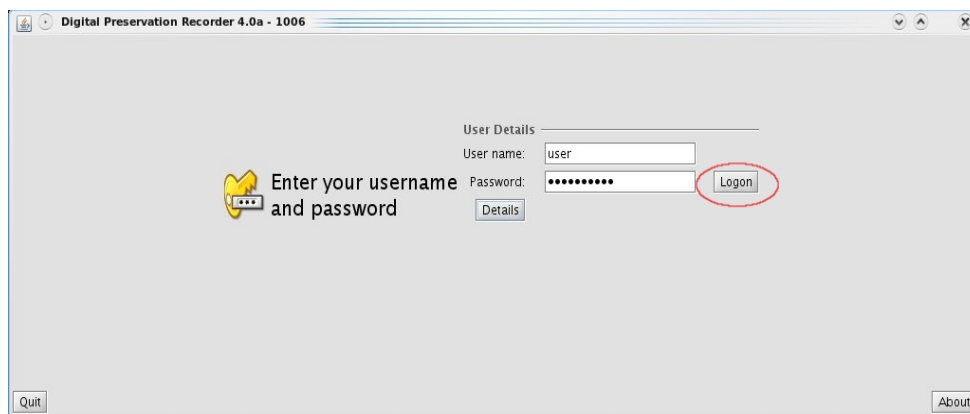
Each stage of DPR processing uses a physically separate computer system. You must log on to DPR at the appropriate workstation for the processing they need to do.

When the instructions in this manual say *Log on to QF*, it means to use a QF workstation and to follow the steps below to log on to DPR.

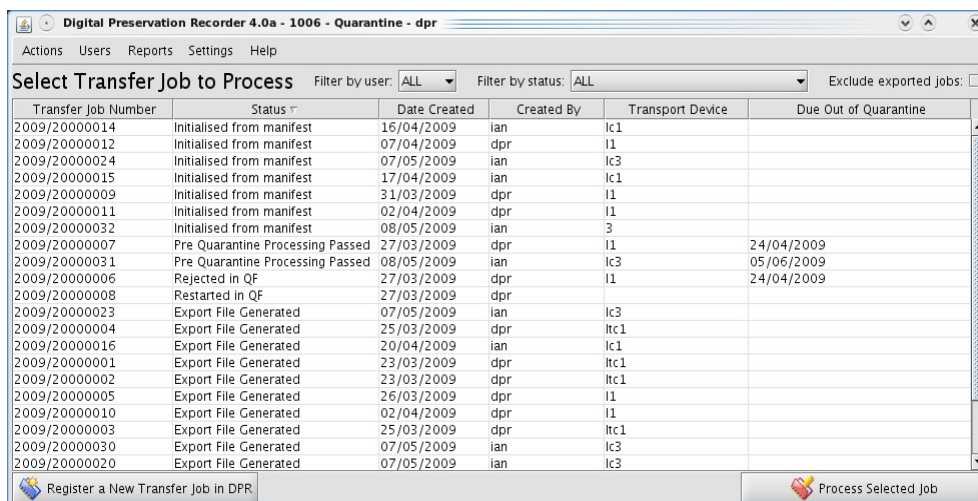
When the instructions say *Log on to QF as an Administrator* it means that the task may only be performed by users with administrator permissions (see section 9.1, *Permissions*).

2.1 Log on to DPR

1. At the appropriate facility – QF, PF or DR, open DPR Program.
2. Type *User Name* and *Password*.
3. Click the **Logon** button.



4. The *Select Transfer Job to Process* window is displayed.



The *Select Transfer Job to Process* window displays all transfer jobs in the stage-specific database (QF, PF or DR).

2.2 Logon Details

If you cannot connect to the database, there may be something wrong with the connection details. Check the correct details with your System Administrator.

Digital Preservation Recorder 4.0a - 1006

User Details

User name: user

Password:

Logon

Details

Enter your username and password

Connection Details

Hostname: localhost

Port: 5432

Database Name: local test PF

Database User Name: postgres

Database Password:

Quit

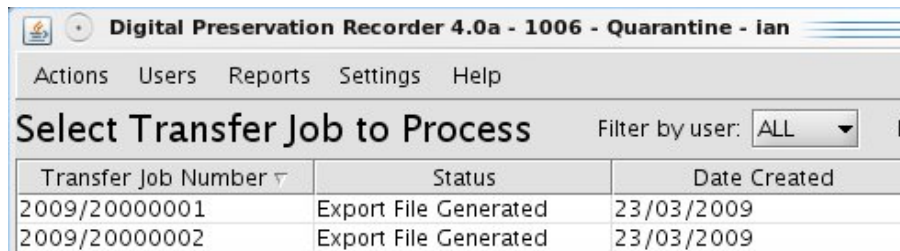
About

3 Basic Interface Features

3.1 Title Bar

Each window displays program and user information:

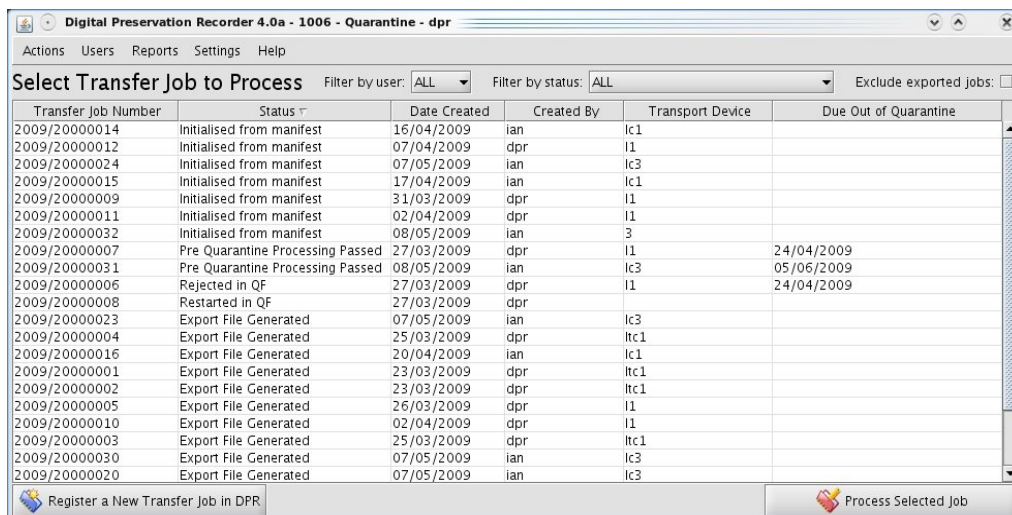
- software name and version
- software build number
- current facility
- user ID.



3.2 Select Transfer Job Window

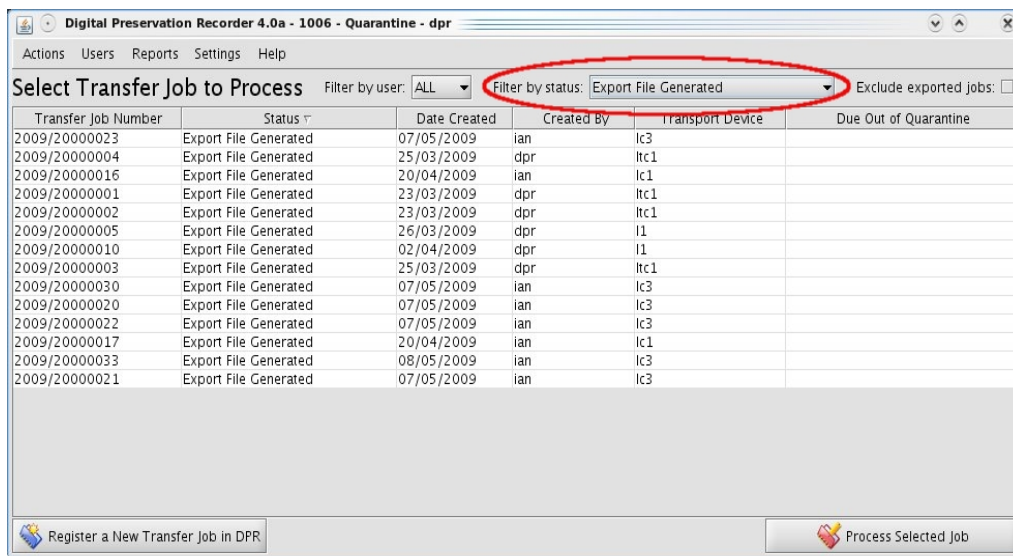
3.2.1 Display

The *Select Transfer Job to Process* window is the main interface for the Digital Preservation Recorder. It displays all the transfer jobs currently in the database for that facility.



3.2.2 Filtering the Display

The display can be filtered so as to only show jobs by certain users or jobs with a particular status.



Digital Preservation Recorder 4.0a - 1006 - Quarantine - dpr

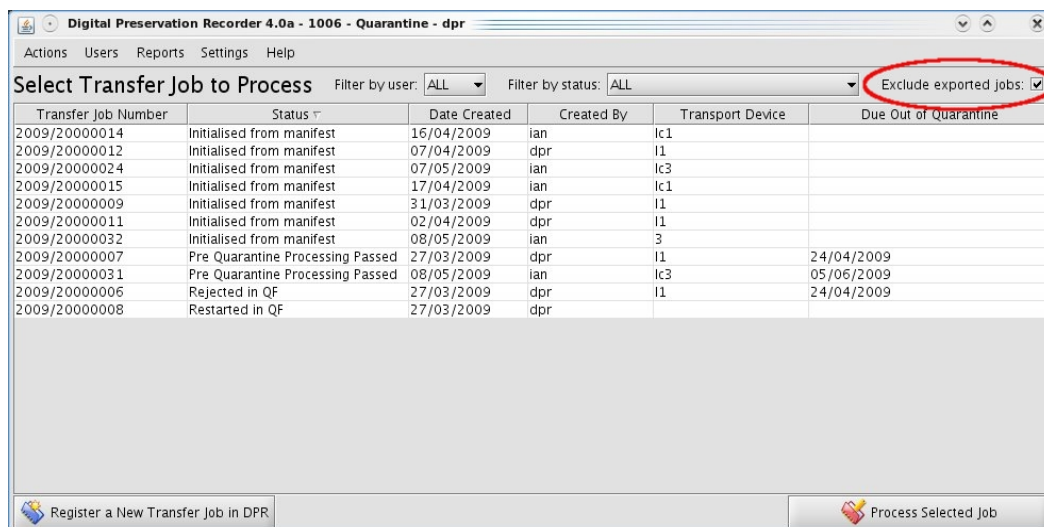
Actions Users Reports Settings Help

Select Transfer Job to Process Filter by user: ALL Filter by status: Export File Generated Exclude exported jobs: ☐

Transfer Job Number	Status	Date Created	Created By	Transport Device	Due Out of Quarantine
2009/20000023	Export File Generated	07/05/2009	ian	lc3	
2009/20000004	Export File Generated	25/03/2009	dpr	lrc1	
2009/20000016	Export File Generated	20/04/2009	ian	lc1	
2009/20000001	Export File Generated	23/03/2009	dpr	lrc1	
2009/20000002	Export File Generated	23/03/2009	dpr	lrc1	
2009/20000005	Export File Generated	26/03/2009	dpr	l1	
2009/20000010	Export File Generated	02/04/2009	dpr	l1	
2009/20000003	Export File Generated	25/03/2009	dpr	lrc1	
2009/20000030	Export File Generated	07/05/2009	ian	lc3	
2009/20000020	Export File Generated	07/05/2009	ian	lc3	
2009/20000022	Export File Generated	07/05/2009	ian	lc3	
2009/20000017	Export File Generated	20/04/2009	ian	lc1	
2009/20000033	Export File Generated	08/05/2009	ian	lc3	
2009/20000021	Export File Generated	07/05/2009	ian	lc3	

Register a New Transfer Job in DPR Process Selected Job

On QF and PF if you only want to display transfer jobs in-process, you can click the *Exclude exported jobs* checkbox. This will hide all transfer jobs with a status of 'Export File Generated'.



Digital Preservation Recorder 4.0a - 1006 - Quarantine - dpr

Actions Users Reports Settings Help

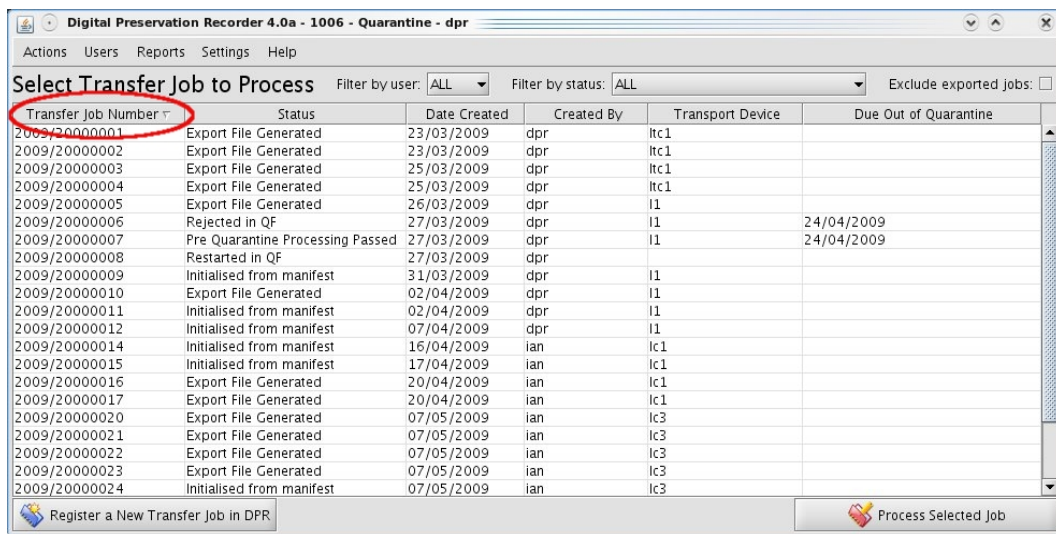
Select Transfer Job to Process Filter by user: ALL Filter by status: ALL Exclude exported jobs: ☒

Transfer Job Number	Status	Date Created	Created By	Transport Device	Due Out of Quarantine
2009/20000014	Initialised from manifest	16/04/2009	ian	lc1	
2009/20000012	Initialised from manifest	07/04/2009	dpr	l1	
2009/20000024	Initialised from manifest	07/05/2009	ian	lc3	
2009/20000015	Initialised from manifest	17/04/2009	ian	lc1	
2009/20000009	Initialised from manifest	31/03/2009	dpr	l1	
2009/20000011	Initialised from manifest	02/04/2009	dpr	l1	
2009/20000032	Initialised from manifest	08/05/2009	ian	3	
2009/20000007	Pre Quarantine Processing Passed	27/03/2009	dpr	l1	24/04/2009
2009/20000031	Pre Quarantine Processing Passed	08/05/2009	ian	lc3	05/06/2009
2009/20000006	Rejected in QF	27/03/2009	dpr	l1	24/04/2009
2009/20000008	Restarted in QF	27/03/2009	dpr		

Register a New Transfer Job in DPR Process Selected Job

3.2.3 Sorting the Display

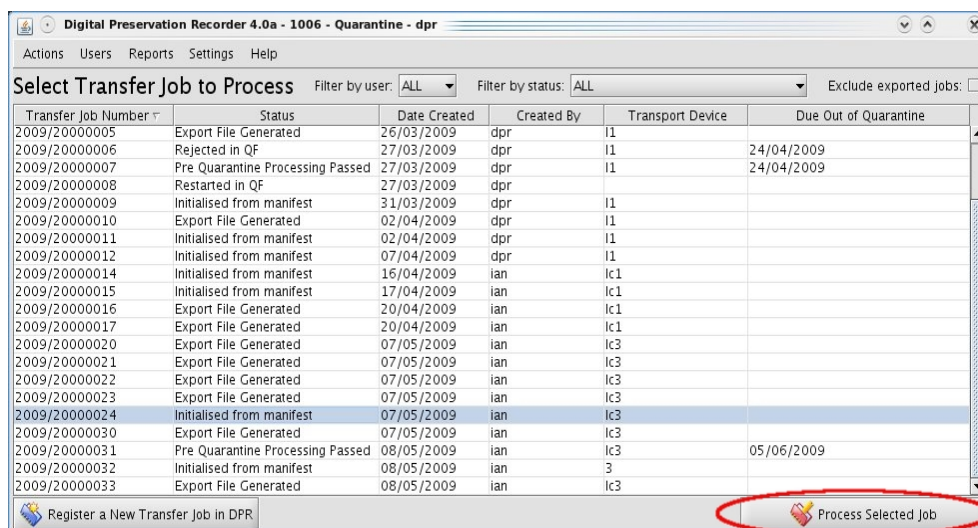
Clicking the title bar of a column will sort the display in terms of the contents of that column.



3.2.4 Selecting a Transfer Job

To select a transfer job for processing or to view the process details, either:

- click on the transfer job in the table and then click the **Process Selected Job** button; or
- double-click the transfer job entry in the table.



See section 3.5 *Processing Window*.

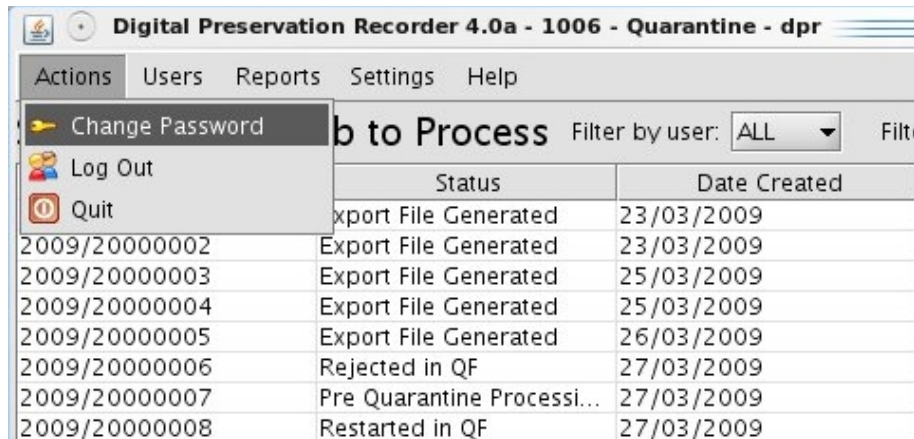
3.3 Actions Menu

The *Actions* menu is available from all DPR windows.

3.3.1 Change Password

To change your password:

1. Select **Actions - Change Password**.



2. Complete the following fields:

- **Current Password**
- **New Password**
- **Confirm Password.**

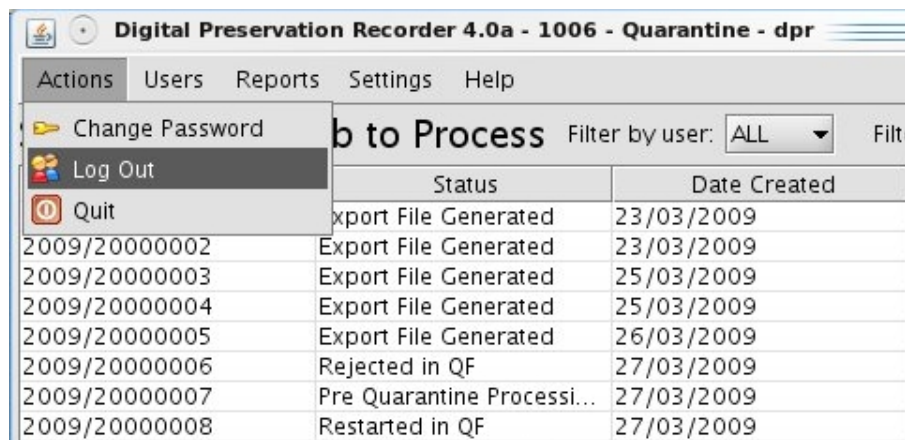


3. To confirm changes and close the Change Password dialog, click **OK** button.

3.3.2 Log Out

To log out:

1. Select **Actions - Log Out**.

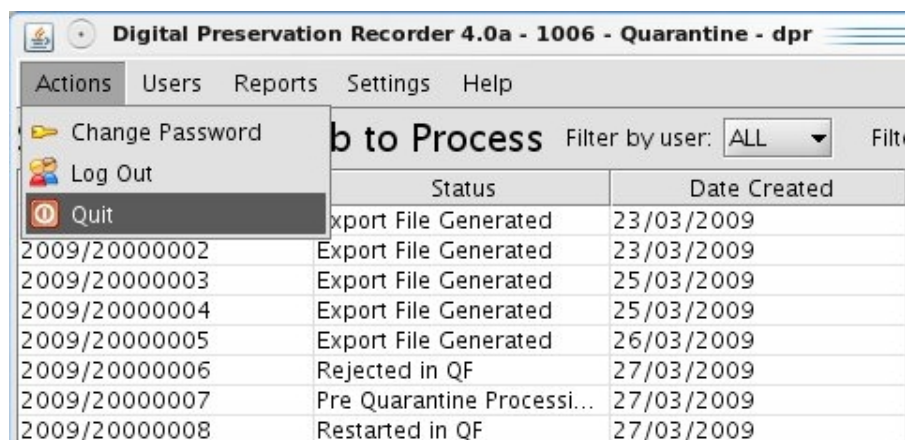


This ends the current session and returns you to the *Log On* window.

3.3.3 Quit

To exit a facility:

1. Select **Actions - Quit**.

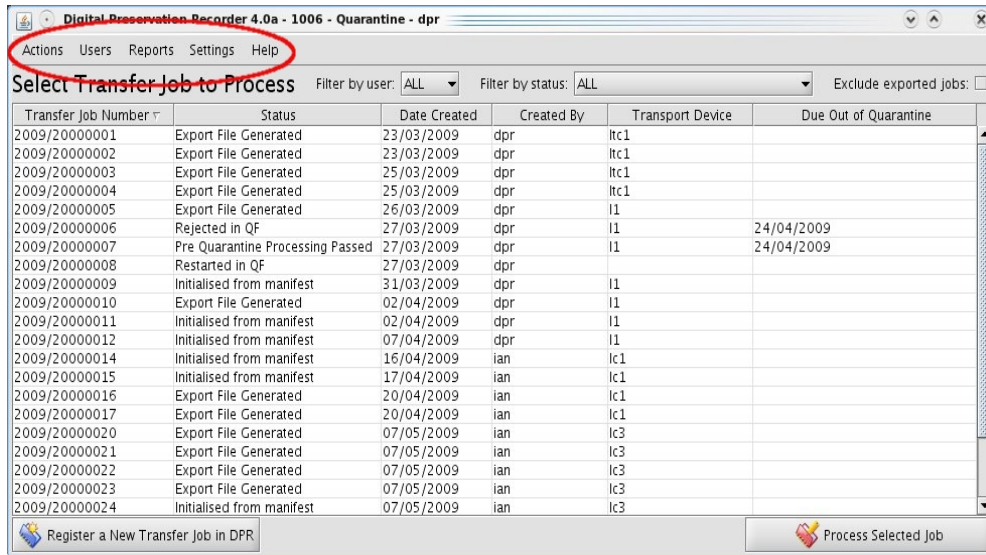


This ends the current session and closes the program.

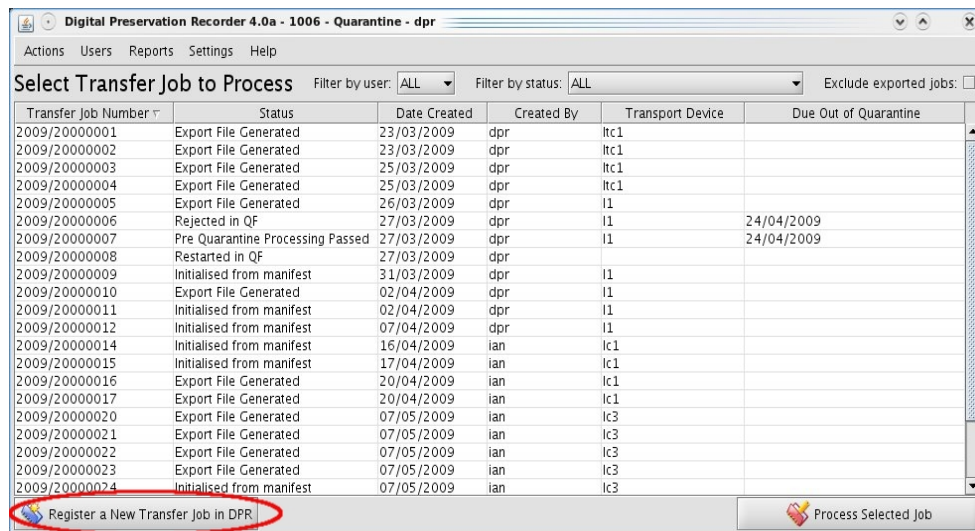
3.4 Other Menus

The following menus are located at the top left of the window:

- Actions (see section 3 *Actions Menu*)
- Users (see section 9.1 *Administer Users*)
- Reports (see section 8 *Reports*)
- Settings (see section 10 *Software Configuration*)
- Help.

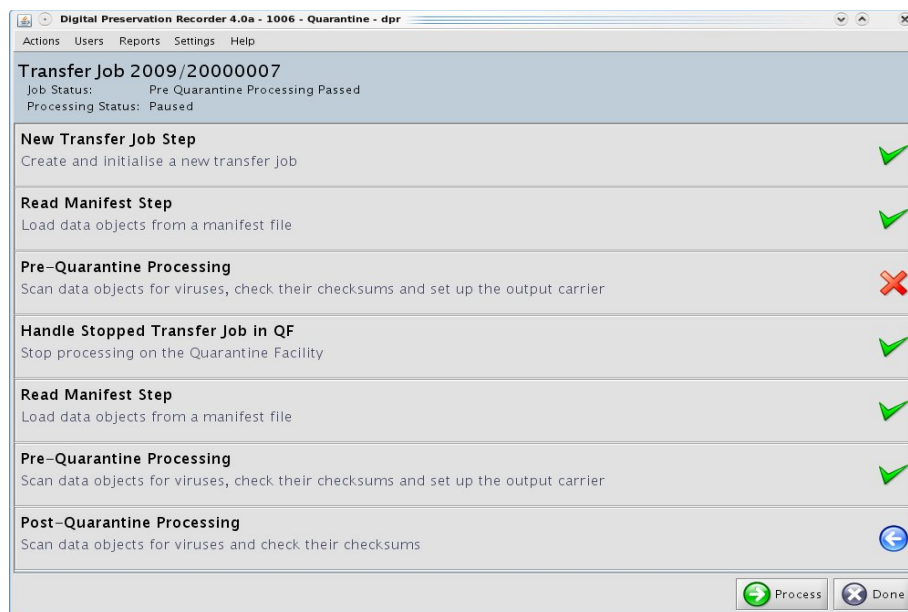


Buttons specific to each facility are located at the lower left:



3.5 Processing Window

The *Processing* window displays the current processing step and all completed processing steps.



Each step is labelled with a status marker:



Step completed successfully



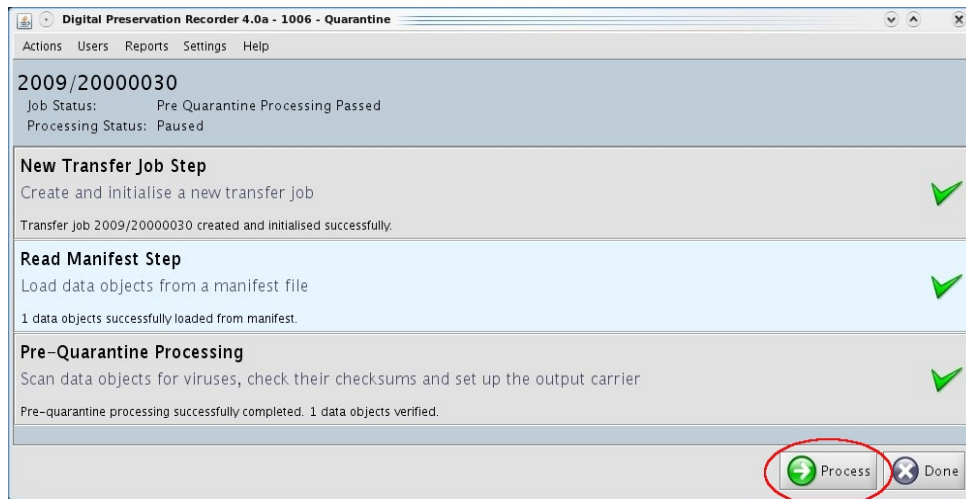
Error in step



Step processing or ready to process

3.5.1 Start / resume processing

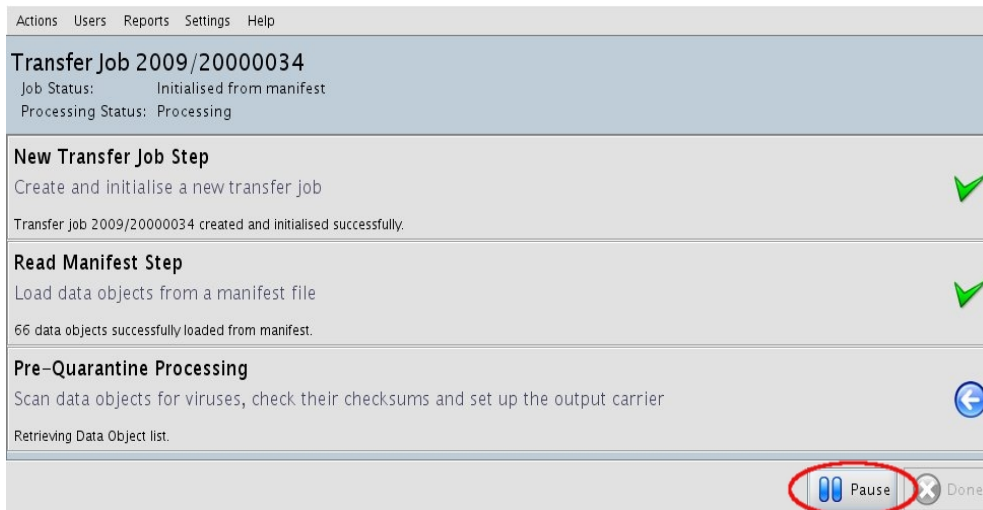
To start or resume processing, click the **Process** button.



3.5.2 Pause Processing

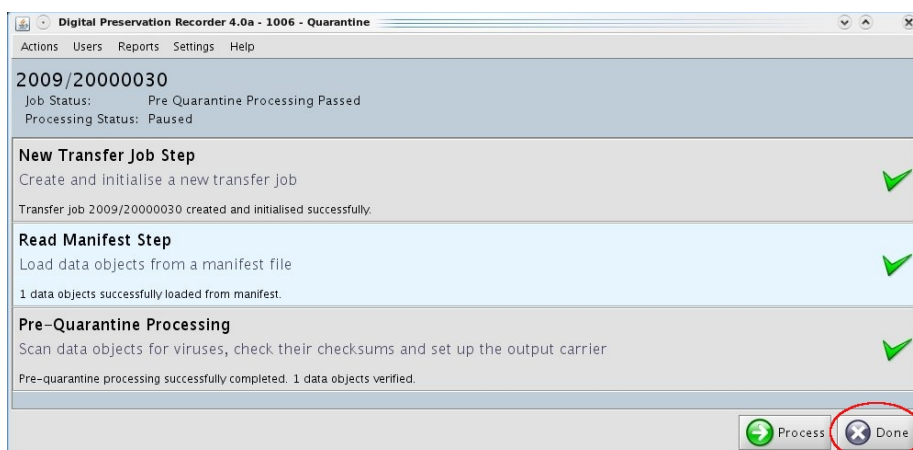
To halt processing at the end of the current step (while DPR is processing a transfer job), click the **Pause** button.

Note: In order to maintain accurate data, the **Pause** button does not take effect until the end of the current step. If the transfer job is large, it may take some time to reach the end of the step.



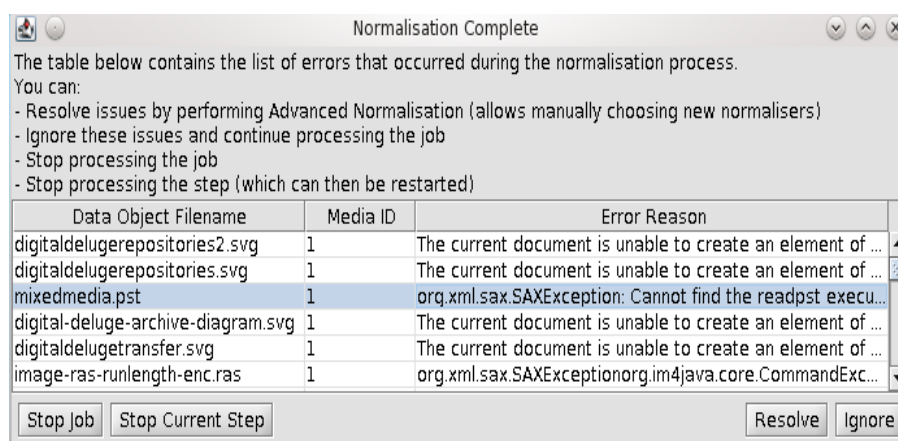
3.5.3 Exiting the Process Window

When the system is not processing, you can click the **Done** button to return to the *Select Transfer Job* window:

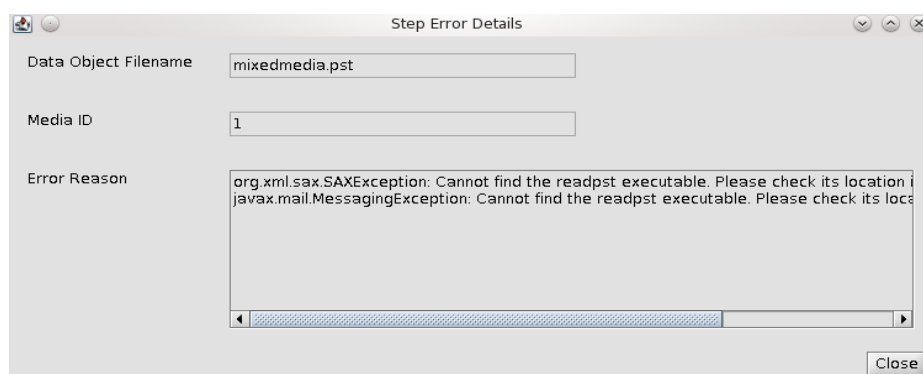


3.6 Expanding Error Messages

Error messages are often displayed in table form:



To see the full text of an error message double click the table entry:



Click the Close button to return to the error dialog.

4 Quarantine Facility

4.1 Overview

The purpose of the QF stage is to:

- confirm that the data objects received on the input media match the contents of the manifest
- check that the data objects do not contain any virus or malware content
- check that data has not become corrupted during transfer
- prepare a transfer job for processing.

4.2 Process

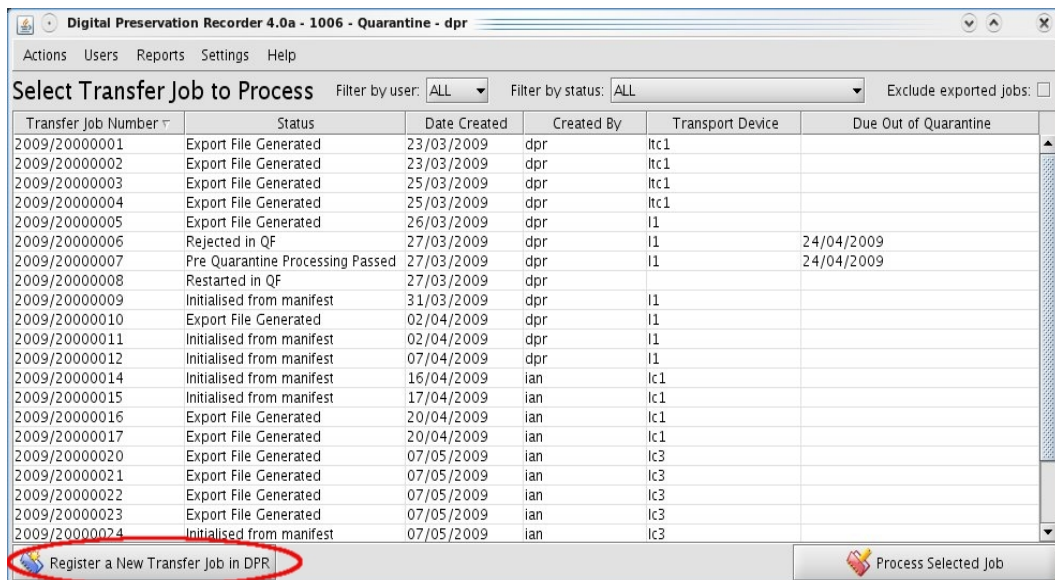
The following steps describe QF processing (steps in italics are performed or initiated by the user, the others happen automatically):

1. *The user registers the transfer job and provides the data and manifest file on the input media.*
2. The data object checksums are checked against the manifest file.
3. The data objects are scanned by anti-virus software.
4. The transfer job including the manifest and data objects is recorded to the output carrier device.
5. *The user disconnects the output carrier device from the system and places it in secure shelf storage.*
6. Quarantine lasts for **28** days, during which the anti-virus files are updated daily.
7. *The user brings the output media device out of storage and re-attaches it to the system.*
8. The data objects are re-scanned for viruses.
9. *The user disconnects the output carrier device from the system. It becomes the input carrier device for PF stage.*

4.2.1 Register Transfer Job

To begin the archiving (quarantine) process:

1. Connect or insert the input media to a QF workstation.
2. Connect the output carrier device (labelled with Carrier ID) to the same workstation.
3. Log on to DPR (see section 2 *Log On*).
4. Click **Register a New Transfer Job** button:



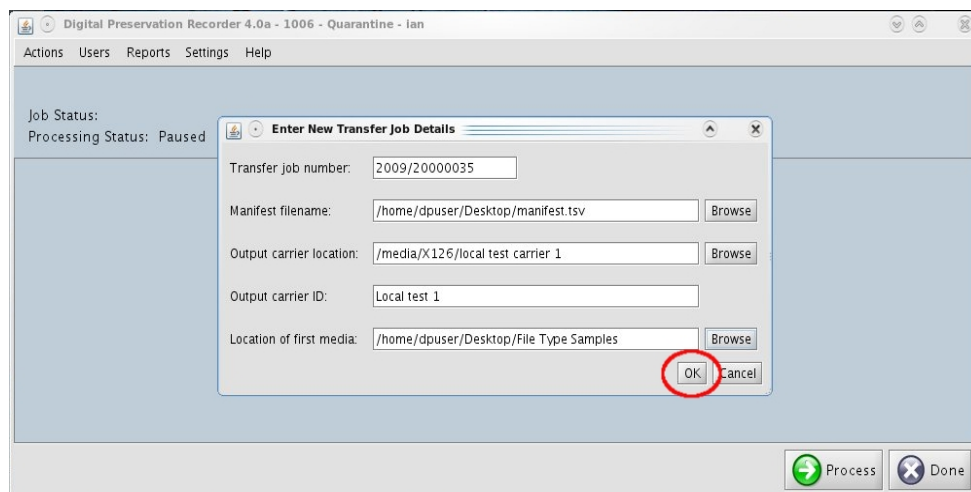
4.2.2 Pre-Quarantine

To perform pre-quarantine processing:

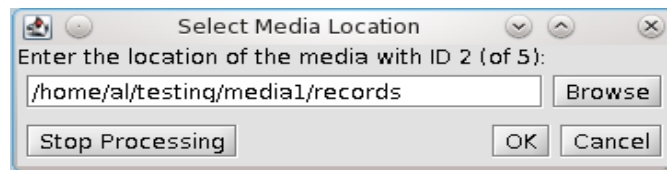
1. Enter new transfer job details:

- The Transfer Job Number is a unique identifier for the transfer job. At the National Archives, the transfer job number is obtained from the Transfer Location and Lending (TLL) module of RecordSearch. Transfer job number format is YYYY/NNNNNNNN.
- Select the manifest file from the input device. The manifest file format is: `filename.tsv`.
- Select the location of the output carrier device.
- Enter the name or number of the output carrier device.
- Select the directory that contains the files on the input carrier device.
 - If you used Manifest Maker to create this arrangement, the containing directory is called *Records*.
 - If you have more than one media (*media1*, *media2* and so on), start by selecting the *Records* directory of *media1*.

2. Click **OK** button.



3. If the transfer job consists of several media, you will be prompted to select the records in each media device in turn:

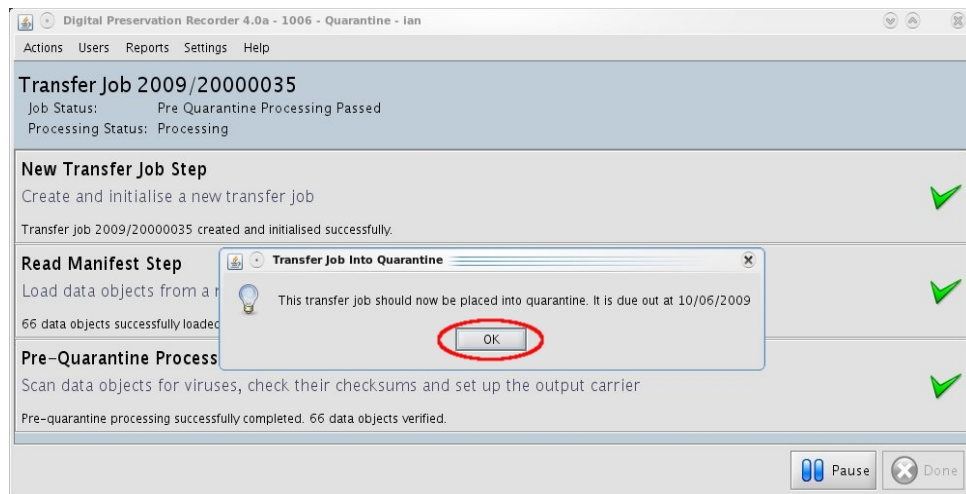


- Select the Records directory of the next media.
- Click **OK**.
- Repeat the above steps until the records of all media are processed.

DPR:

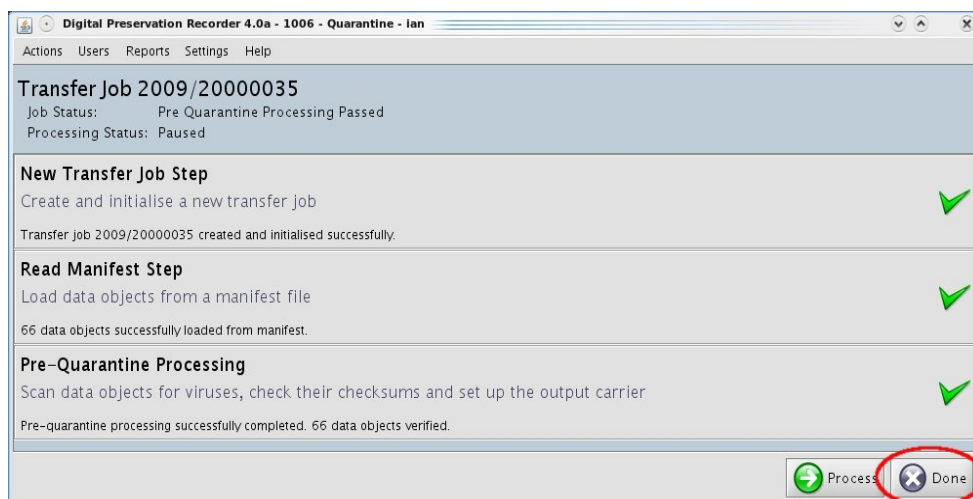
- compares the contents of the input media to what is listed in the manifest file
- calculates a checksum for each object on the input media and compares it to the checksum provided in the manifest file
- scans the data objects for viruses or other malware
- records the data objects and transfer job file onto the output carrier.

4. Click **OK** button:



The transfer job is now in quarantine.

5. Click **Done** button (return to *Select Transfer Job* window)



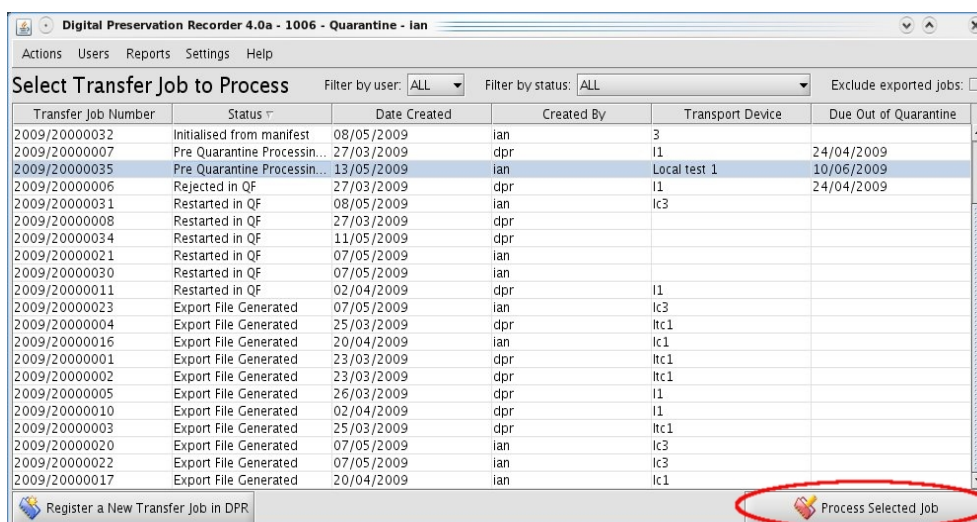
6. Remove the input media and output carrier devices.

7. Store the output carrier device in a secure location for the **28** day quarantine period.

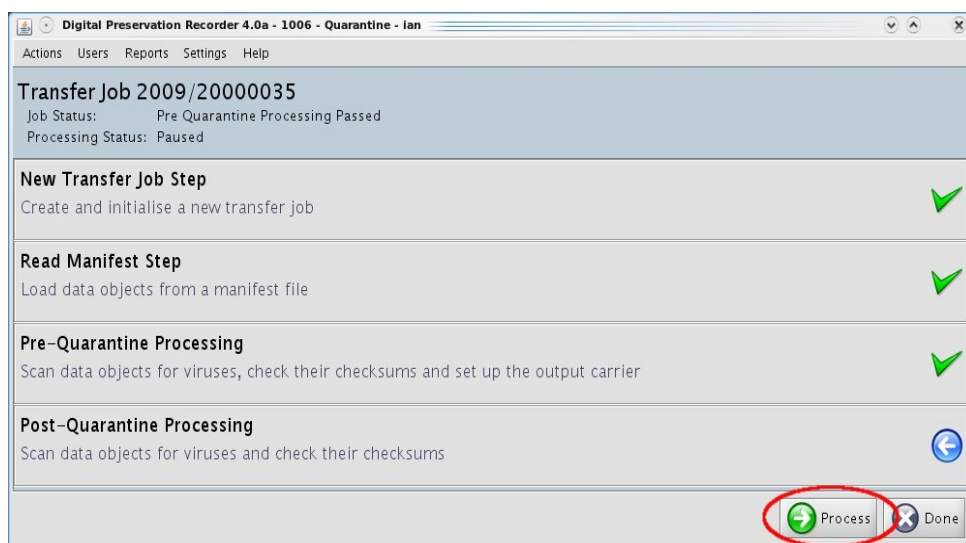
4.2.3 Post Quarantine

To continue the archiving process after the quarantine period:

1. Retrieve the output carrier device from secure storage and connect it to the QF workstation.
2. Log on to DPR (see section 2 *Log On*).
3. Select the transfer job and click **Process Selected Job** button.

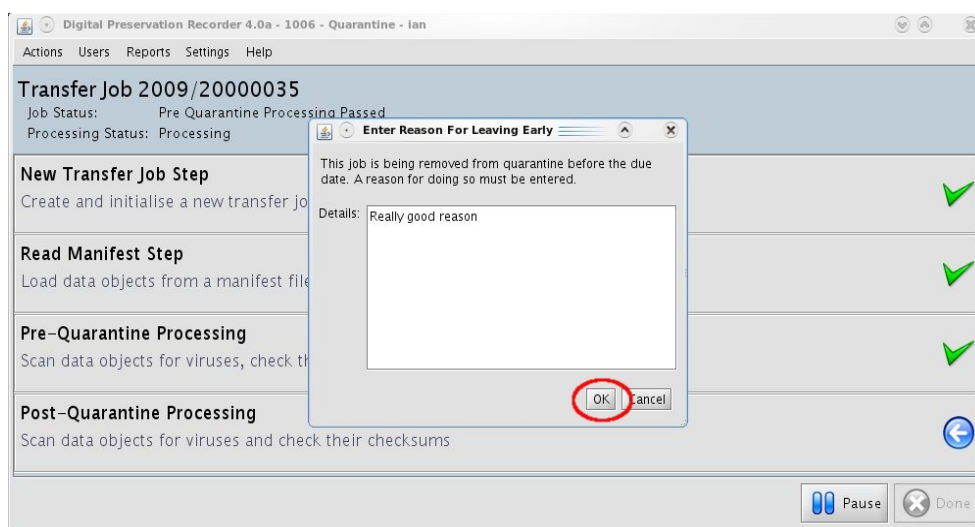


4. Click **Process** button:



Note: You must provide a reason if you remove the transfer job from quarantine before the end of the 28 days.

5. Click the **OK** button to continue.

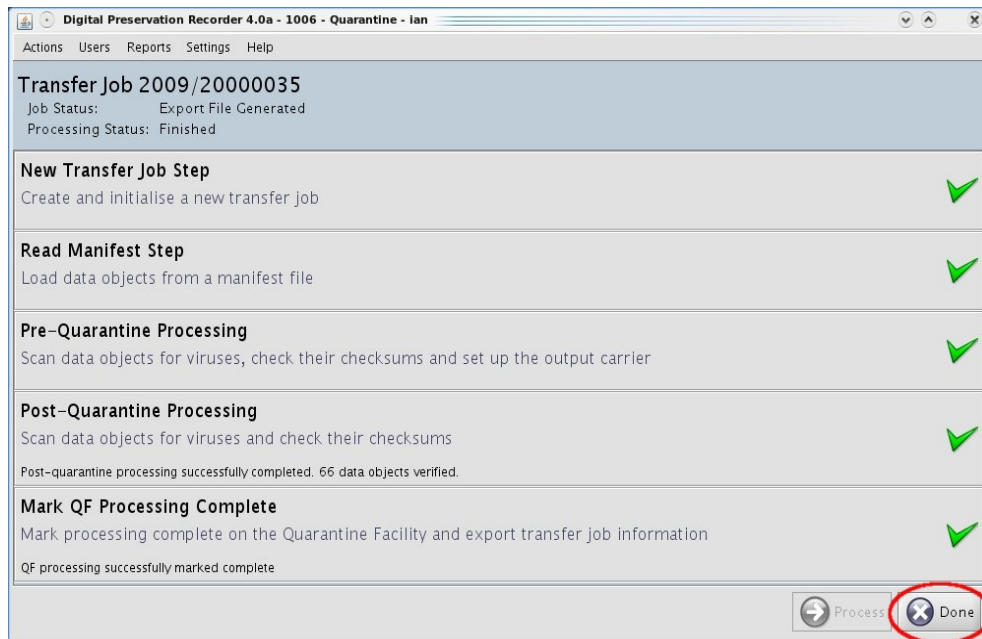


Quarantine processing is complete.

4.2.4 Export Transfer Job

To export a transfer job:

1. Click **Done** button (return to Select Transfer Job window).



2. Disconnect the output carrier device from the workstation. It is now the input carrier device for the PF stage.

5 Preservation Facility

5.1 Overview

The purpose of the PF stage is to:

- confirm that the data objects received from QF have not been altered or corrupted
- binary normalise each data object
- normalise each data object
- create checksums for the data objects
- perform quality assurance checks on data objects.

5.1.1 Normalisation and AIPs

The fundamental operation of DPR is to create two different types of Archival Information Packages (AIPs) for each data object in the transfer job. The two types of AIPs stored in the Digital Archive are:

- Binary Normalised AIP

DPR creates a single Binary Normalised AIP, where the data object is converted into base 64 encoding to enable the inclusion of XML metadata within the binary AIP. The binary normalised AIP can be used to exactly re-create the original object.

- Normalised AIP

DPR may create Normalised AIP(s) where the data object is converted to a selected preservation format.

When the normalisation process involves conversion into a new format, quality assurance is required to check the success of the conversion (see section 5.1.3 *Quality Assurance*).

The following table describes the possible normalisation and quality assurance options:

	Binary Normalisation format	Normalisation format	QA
Xena plugin exists for proprietary object type	Original format e.g. doc	Converted to open format e.g. odt	Yes
Xena plugin exists for approved open format object type	Original format e.g. jpg	Original format e.g. jpg	No
No Xena plugin for object type	Original format e.g. cad	Original format e.g. cad	No
Xena plugin unable to normalise object	Original format	Not created Try Advanced Normalisation	No

5.1.2 Binary Quality Assurance

After binary normalisation, the binary normalised objects are compared to the objects on the input carrier to check that they are encoded accurately. This is an automated process.

5.1.3 Quality Assurance

The user must perform manual quality assurance on a subset of the data objects contained in the transfer job. Only data objects that have been normalised are sampled for quality assurance.

The system samples data objects based on the proportion of objects of each MIME type found in the transfer job. The system samples at least one and no more than twenty data objects from each MIME type present.

For an overview on what kinds of data objects are selected for quality assurance, see section 5.1.1 *Normalisation and AIPs*.

This step requires the user to compare the original and normalised versions of the files to ensure that the normalisation process was successful.

The possible results of quality assurance are 'Pass' or 'Fail' only. Recording a 'Fail' result will cause the transfer job to record that the normalisation process 'failed' for that data object.

Quality assurance is a necessarily subjective process. It is up to the user to judge if any alteration to an object's content or appearance can be determined to be acceptable. What is or is not acceptable must be considered in terms of the original creator's intent and the capabilities and requirements of the archive:

- Is there any information in the original that is changed or lost in the normalised version? This could be a loss or change in text in a document, a loss of detail in an image or a drop in sound quality in a recording.
- Is there any loss or change in formatting? In a document, is the numbering or paragraph format the same in the normalised version?
- Many forms of document have additional data such as author, time/date stamps or update history. Are these still present?

5.2 Process

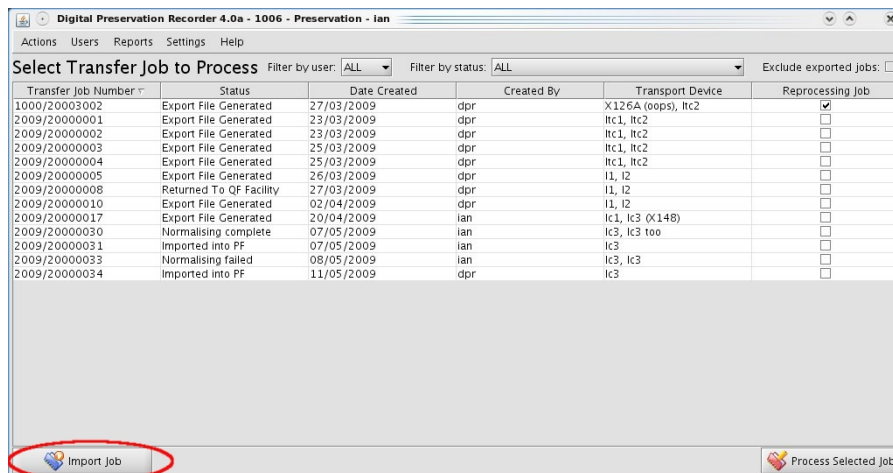
The following steps describe PF processing (steps in italics are performed or initiated by the user, the others happen automatically):

1. *The user connects the input carrier device to the PF and imports the transfer job.*
2. The data objects are checked against the checksums created in QF.
3. The Xena software binary normalises each data object.
4. Normalised data objects are created for each original data object where the Xena software has a normaliser for that object type. If the original data object is already in an open format such as .odt then the normalised file will be identical to the binary normalised file.
5. *The user can use advanced normalisation to create normalised data objects for original data objects that the program could not identify/process.*
6. New checksums are calculated for the data objects.
7. *The user views a selection of original and normalised objects to confirm that the normalised data object is a valid rendering of the original.*
8. The transfer job including the metadata and data objects is recorded to the output carrier device.
9. *The user disconnects the output carrier device from the system. It becomes the input carrier device for the DR stage.*

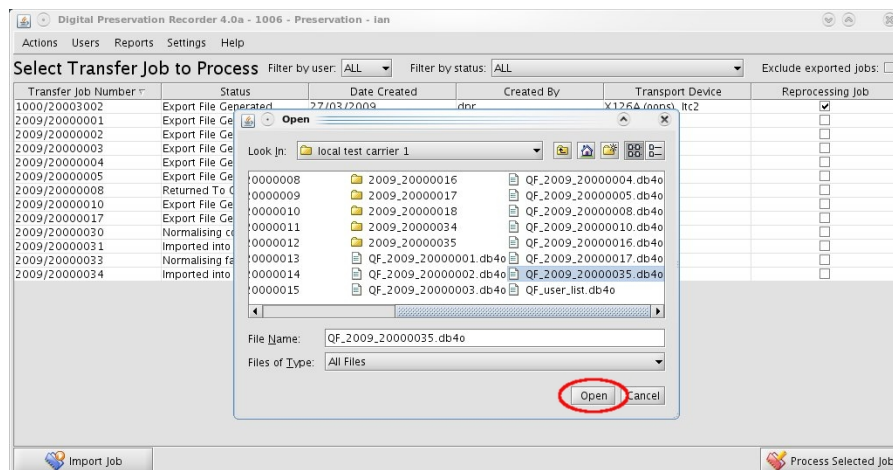
5.2.1 Import Transfer Job

To import a transfer job into the PF:

1. Connect the input carrier device (with the transfer job from QF) to the PF workstation.
2. Connect the output carrier device to the workstation.
3. Log on to DPR (see section 2 *Log On*).
4. Click the **Import Job** Button.



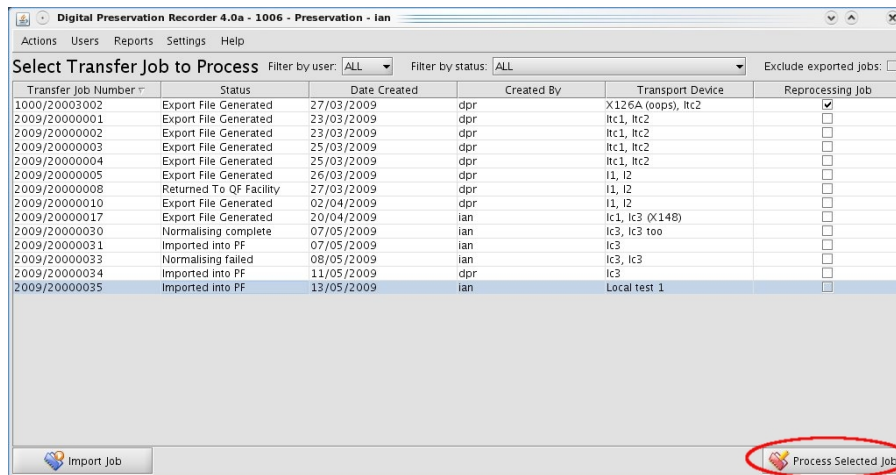
5. Select the transfer job on the input carrier device. The transfer job file format is: QF_YYYY_NNNNNNNN.db4o
6. Click **Open** button to import transfer job (return to Select Transfer Job window).



5.2.2 Normalisation

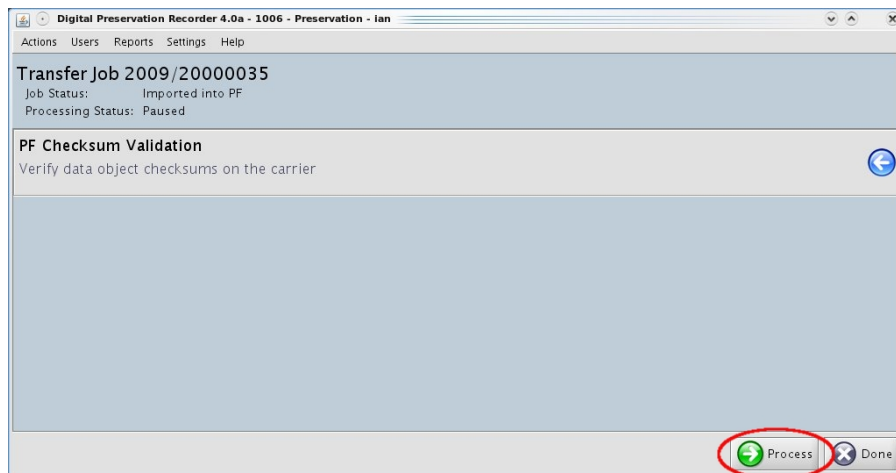
To perform preservation processing:

1. Connect the input carrier device (with the transfer job from QF) to the PF workstation.
2. Connect the output carrier device to the PF workstation.
3. Log on to DPR (see section 2 *Log On*).
4. Select transfer job and click **Process Selected Job** button to start processing.



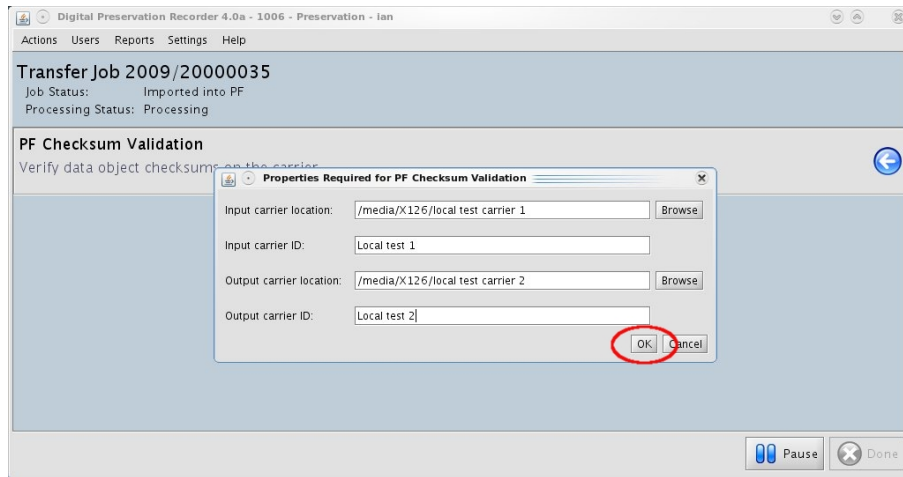
DPR calculates a checksum for each data object in the transfer job and compares it to the checksum provided in the transfer job file

5. Click **Process** button.



6. Enter carrier data:
 - Select location of input carrier device.
 - Enter input carrier device ID.
 - Select location of output carrier device.
 - Enter output carrier device ID.

7. Click **OK** button to continue

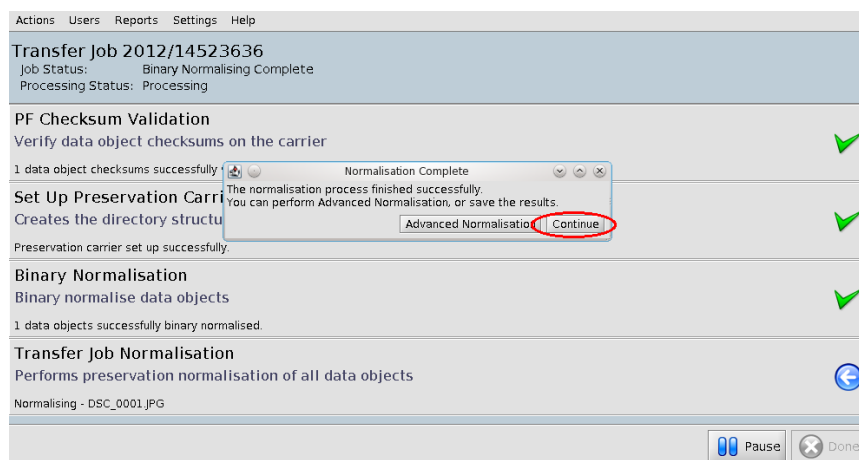


DPR:

- creates a binary normalised version of each data object in the transfer job (see section 5.1.1 *Normalisation and AIPs*)
- performs binary quality assurance (see section 5.1.2 *Binary Quality Assurance*)
- creates a normalised version for each data object that meets the normalisation conditions (see section 5.1.1 *Normalisation and AIPs*).

8. Depending on the results of normalisation, do one of the following:

- if all files have normalised successfully, advanced normalisation is not needed:
 - click the **Continue** button to store the results
 - continue to quality assurance (see section 5.2.4 *Quality Assurance*).
- if files failed normalisation:
 - click the **Advanced Normalisation** button
 - continue to advanced normalisation (see section 5.2.3 *Advanced Normalisation*).



5.2.3 Advanced Normalisation

If the automatic normalisation process failed to identify or normalise one or more data objects, use advanced normalisation to manually configure the normalisation settings.

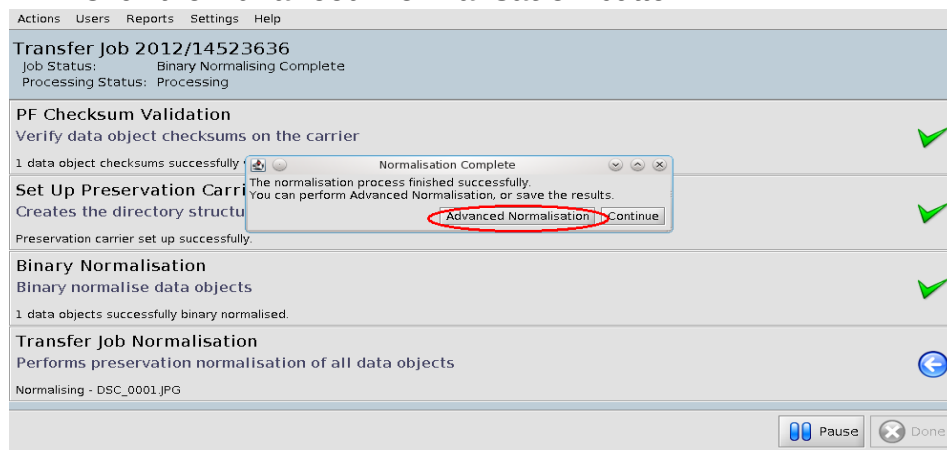
Advanced normalisation is useful where Xena has a plugin able to normalise the data object, but has misidentified it for some reason, there is some data corruption or you want to use a specific normaliser plugin.

You can use advanced normalisation when:

- a data object's MIME type is not correctly identified
- a data object includes corrupted file extension or data
- you want to manually specify the normaliser used on a data object.

To perform advanced normalisation:

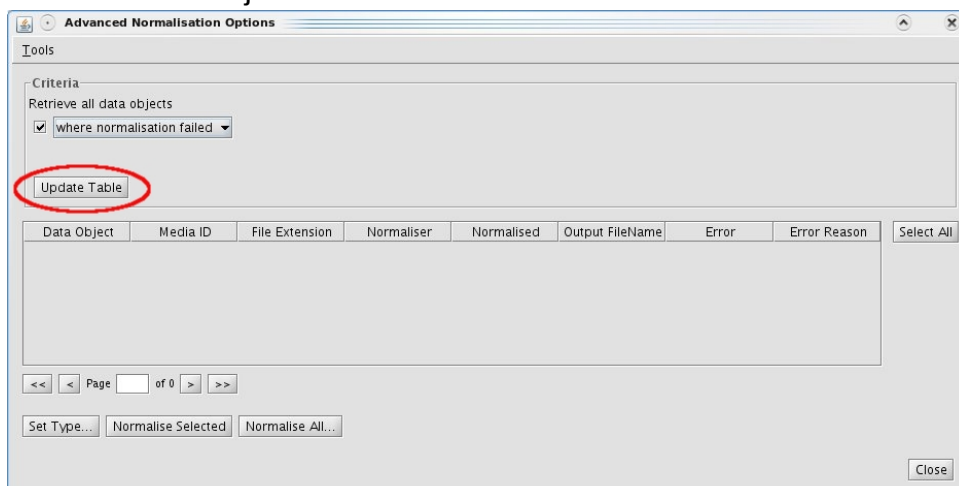
1. Click the **Advanced Normalisation** button.



2. To narrow the list of data objects, click the checkbox and select a search criterion from the drop-down list:

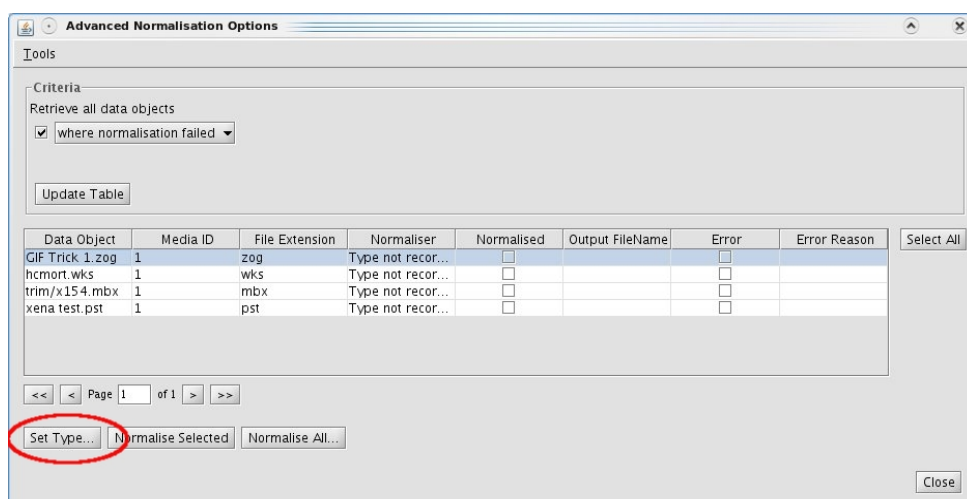
Criterion	Description
with no normalised AIP	Where data objects were binary normalised only.
where normalisation failed	Where data objects were identified but there was a normalisation error.
where normalisation type is ...	Drop down list includes all available MIME types.
where data object name is ...	Enter name of data object

3. Click the **Update Table** button to display the data objects in the transfer job.

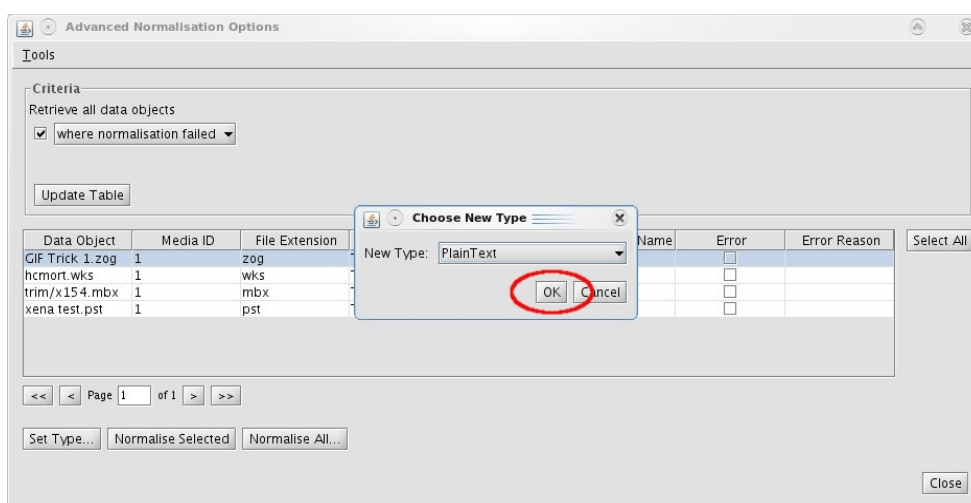


4. Select each data object from the table.

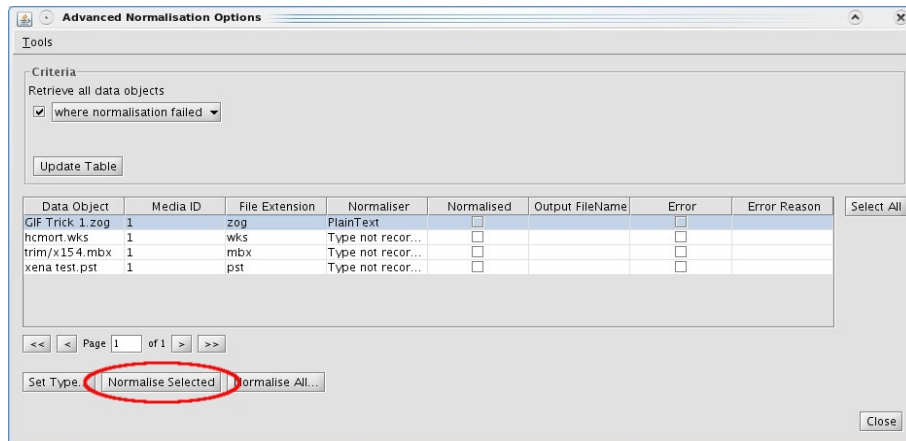
5. Click the **Set Type** button.



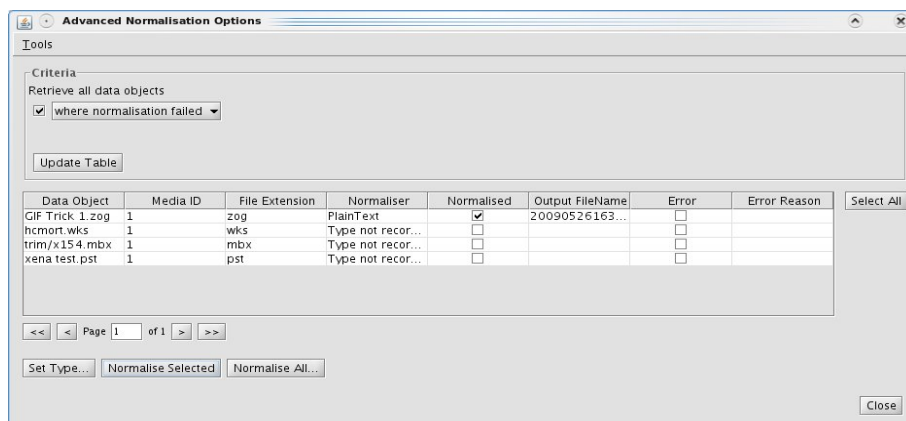
6. Select the correct MIME Type for the data object.



7. Click the **Normalise Selected** button.



DPR will attempt to normalise the data object using the manually entered file type.



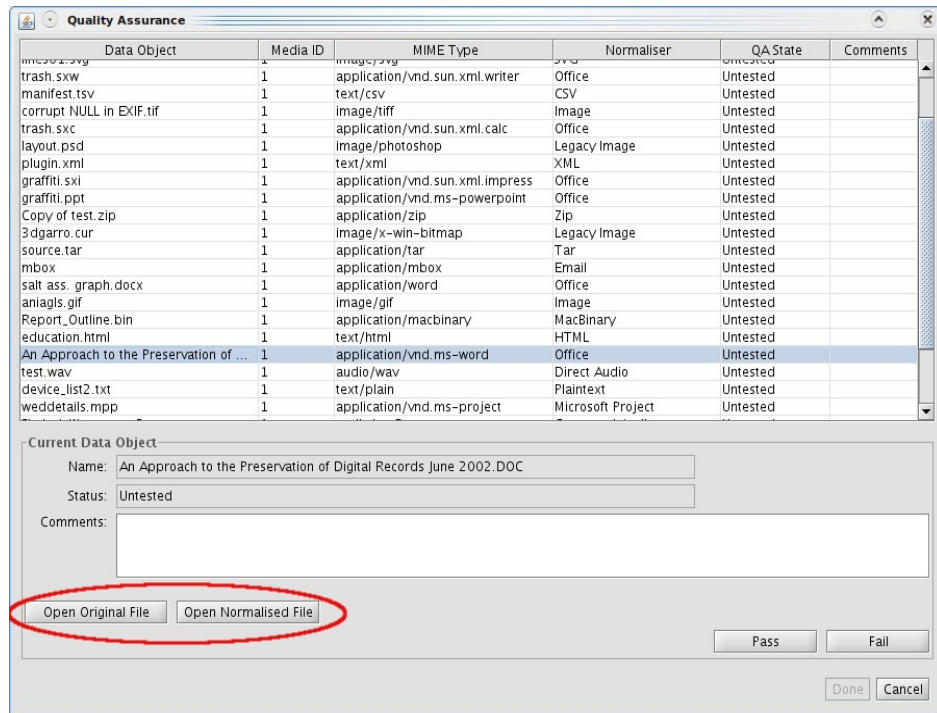
If the normalisation is not successful, re-try normalisation as a different file type.

8. To complete the normalisation process, close the *Advanced Normalisation* dialog and save the results.

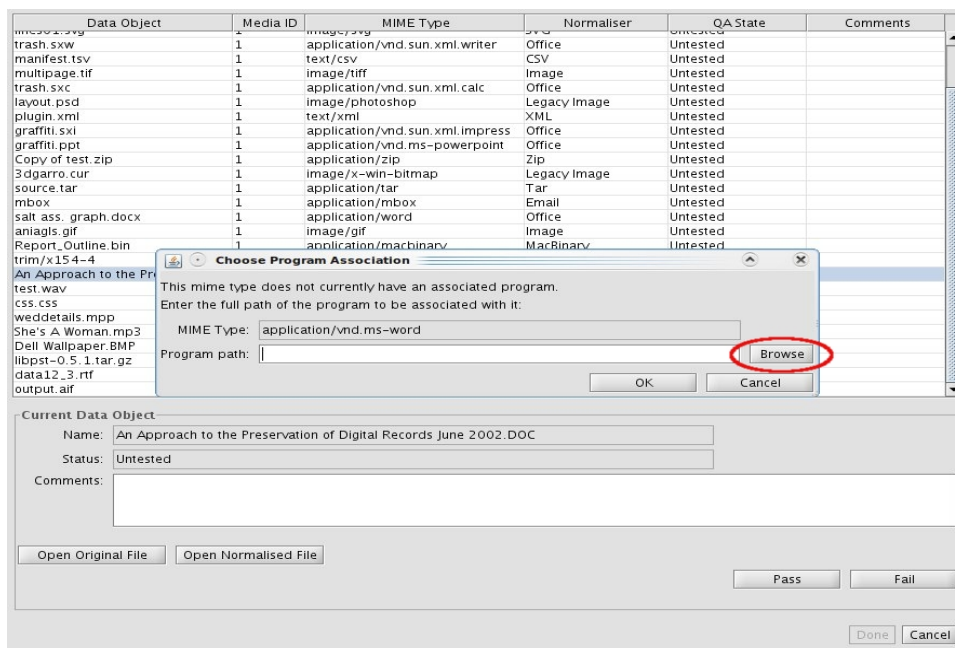
5.2.4 Quality Assurance Process

To perform the quality assurance process:

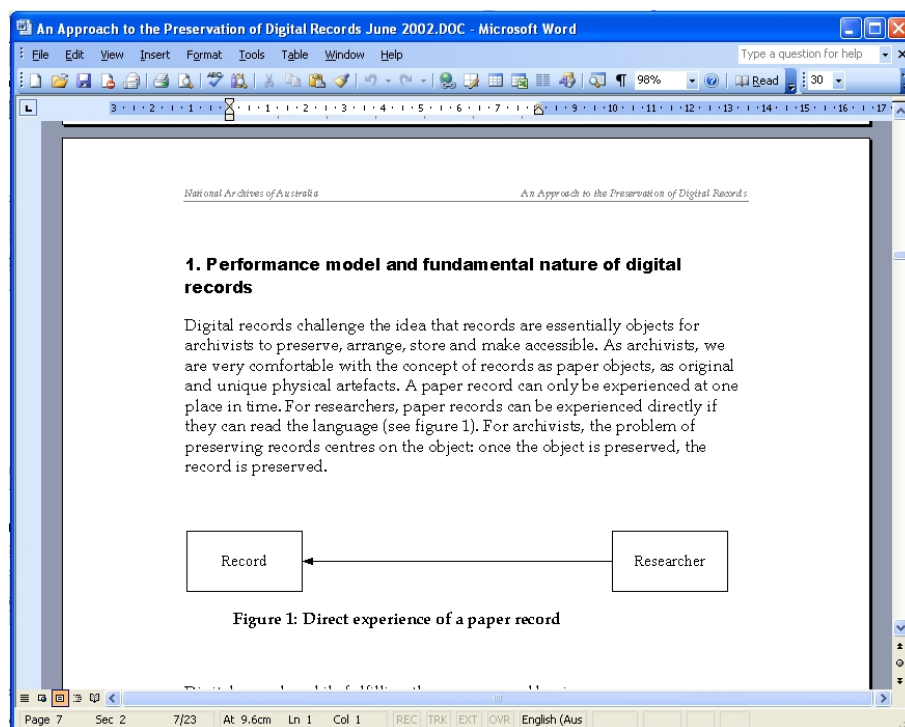
1. Select the file to view (all listed files must be reviewed in order to complete quality assurance).
2. Click **Open Original File** button.



If the file type selected does not have a program association specified (see section 10.2.2 *Configure Program Associations*), DPR will ask you to enter the location of the viewing program (for example, Notepad to view text).

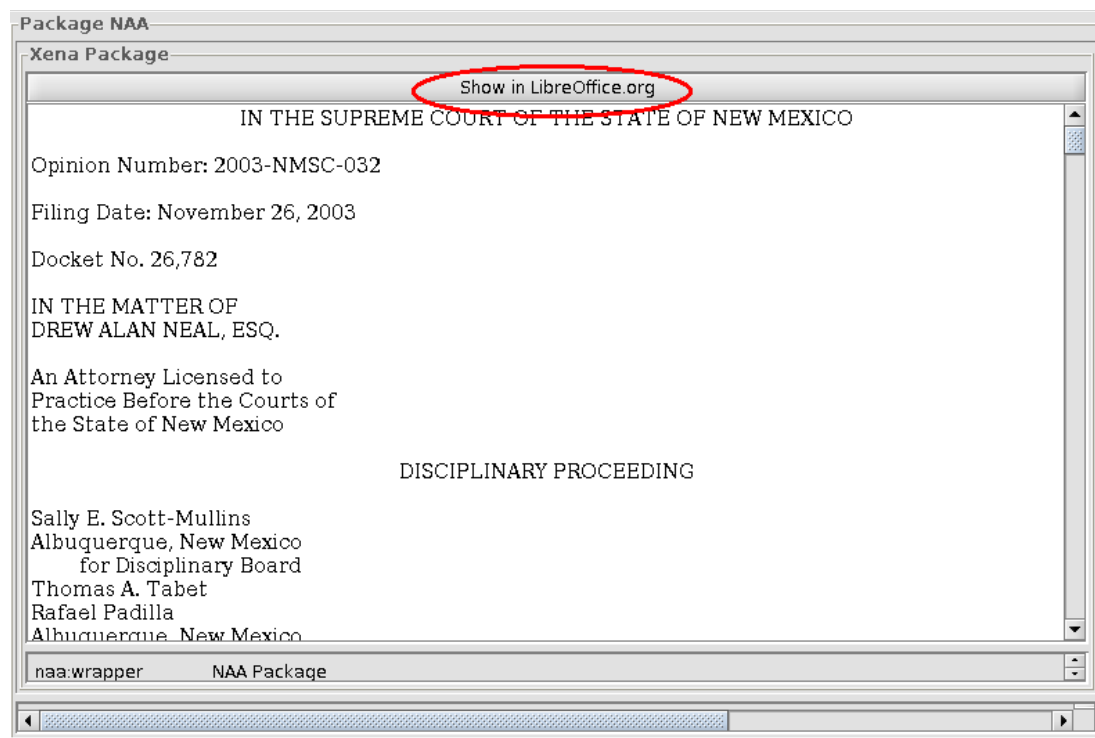


The appropriate program will open the original (pre-normalisation) version of the file.



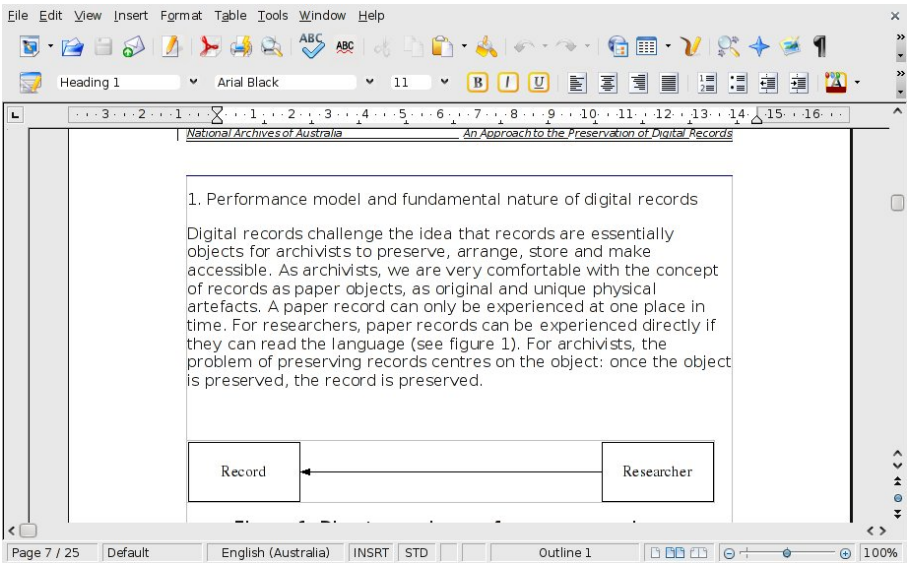
3. Click the **Open Normalised File** button

The Xena Viewer will display the normalised version of the file.

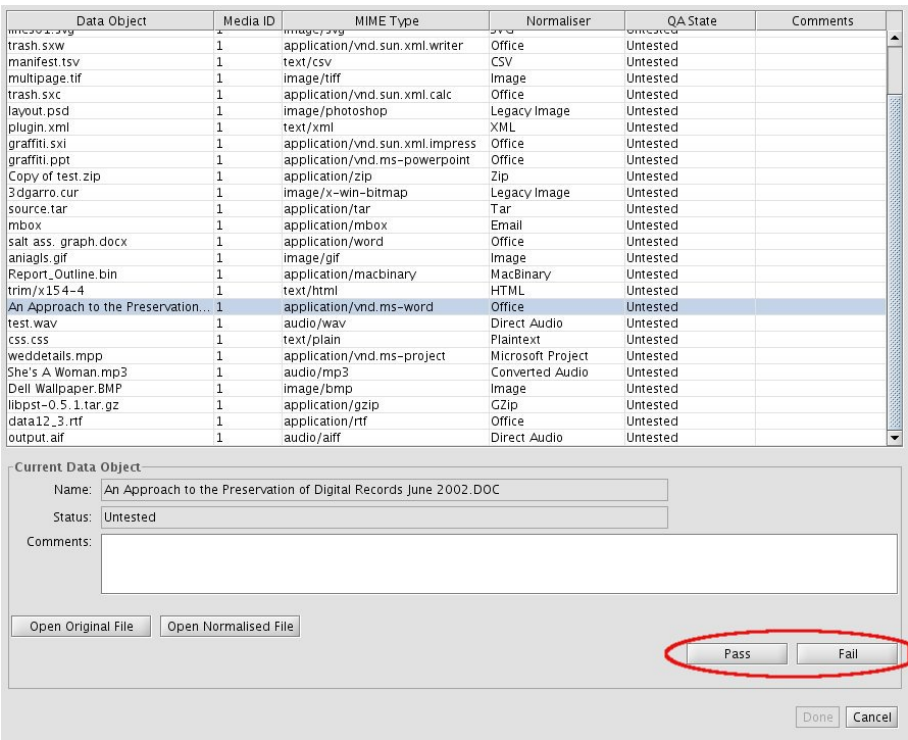


The Xena Viewer may give the option to display the file using another program. In this case, the **Show in LibreOffice.org** button.

This may give a more accurate rendering of the normalised file.

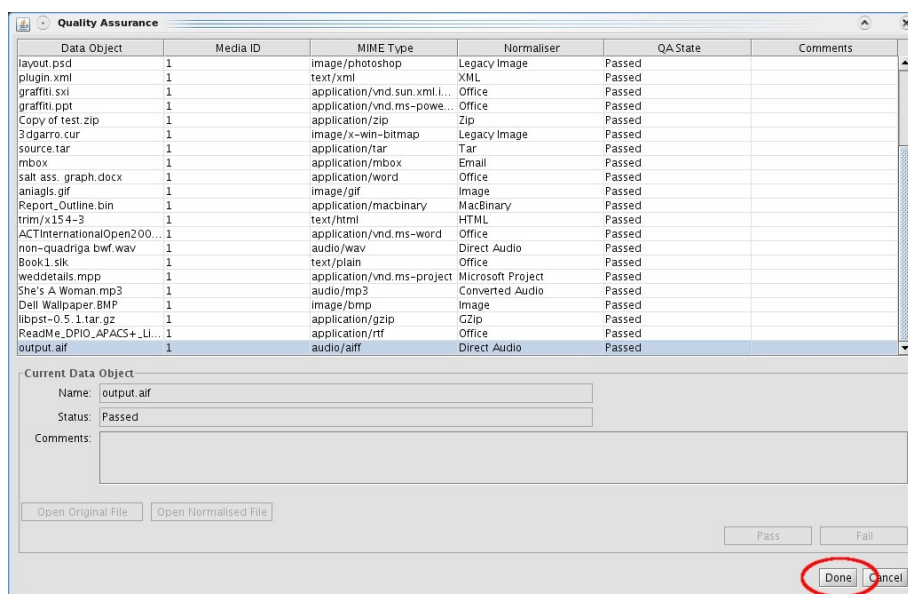


4. Check that the normalised version against the original version (see section 5.1.3 *Quality Assurance*).
5. If the normalised file is an acceptable rendition of the original the click the **Pass** button, otherwise click the **Fail** button.



6. Close the viewer windows and repeat quality assurance for all remaining files.

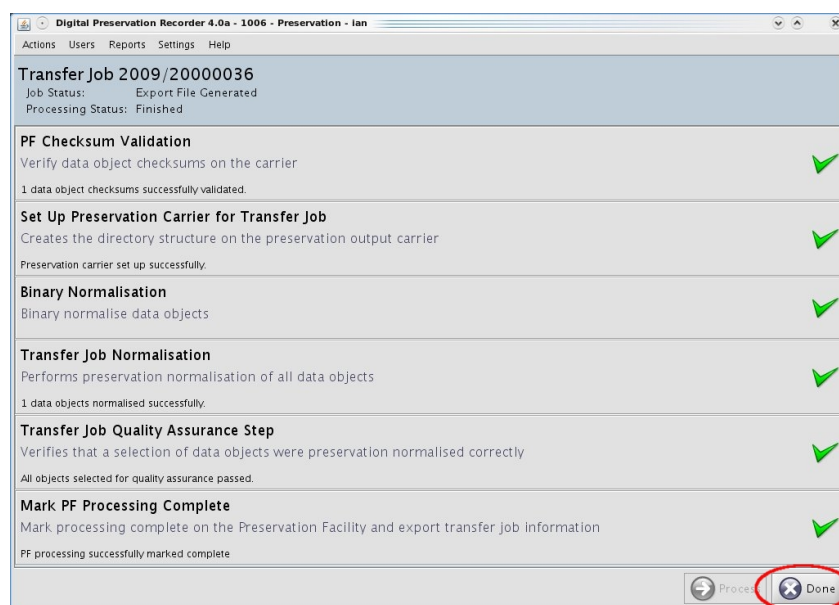
- When you have reviewed all the files, press the **Done** button to return to processing.



5.2.5 Export Transfer Job

To export the transfer job:

- The transfer job has now finished the preservation stage.
- To return to *Select Transfer Job* window, click the **Done** button.



- Disconnect the input carrier device from the workstation.
- Disconnect the output carrier device from the workstation.

The output carrier is now the input carrier device for the DR stage.

6 Digital Repository

6.1 Overview

The purpose of the DR stage is to:

- confirm that the data objects match exactly what was processed in PF
- copy the transfer job including the manifest and all data objects into the Digital Archive for long term storage
- allow the retrieval of data objects (AIPs) from the Digital Archive
- provide access to metadata on the transfer job and data objects
- enable the selection of data objects for re-processing.

The DR functions are supported by the Checksum Checker software. This is a separate program that performs regular checks of the data stored in the Digital Archive.

6.2 Process

The DR stage can be described as follows (steps in *italics* are performed or initiated by the user, the others happen automatically):

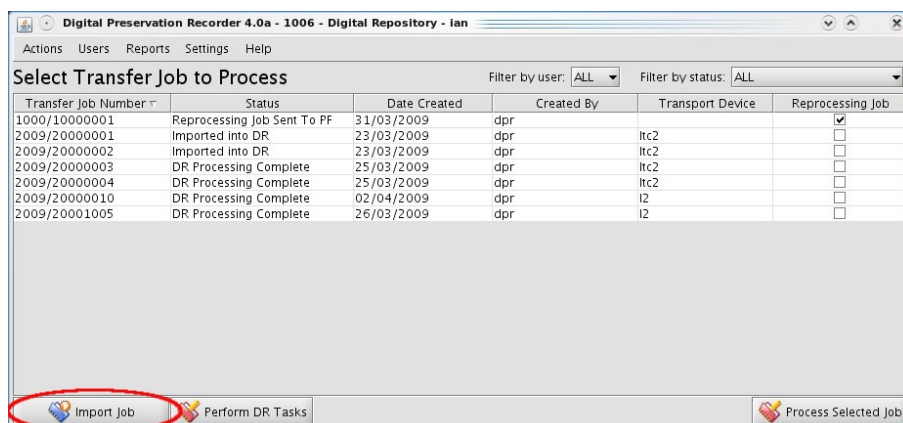
1. *The user connects the input carrier device to the DR and imports the transfer job.*
2. The data objects are checked against the checksums calculated in the preservation stage.
3. The transfer job including the metadata and data objects is recorded to the Digital Archive.
4. *The user disconnects the input carrier device from the system.*
5. The archiving process is now complete.

6.2.1 Import Transfer Job

To import a transfer job into the DR:

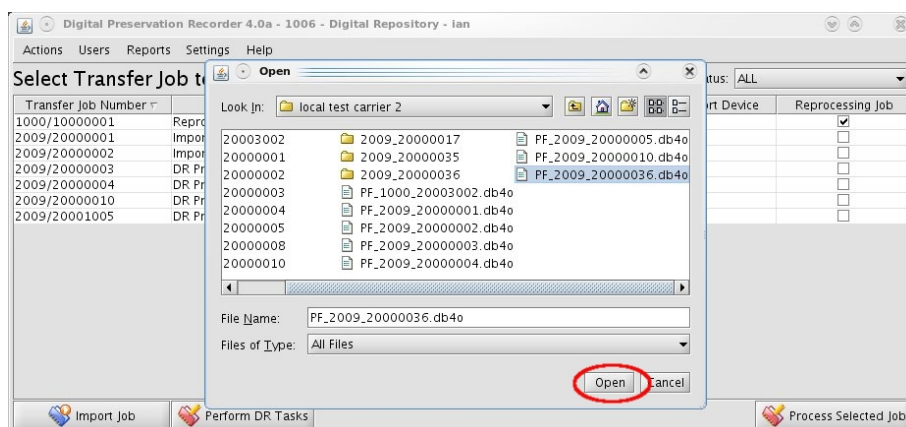
1. Connect the input carrier device (with the transfer job from PF) to the DR workstation.
2. Log on to DPR (see section 2 *Log On*).

3. Click the **Import Job** Button.



4. Select the transfer job on the input carrier device.

Transfer job file format: PF_YYYY_NNNNNNNN . db4o.

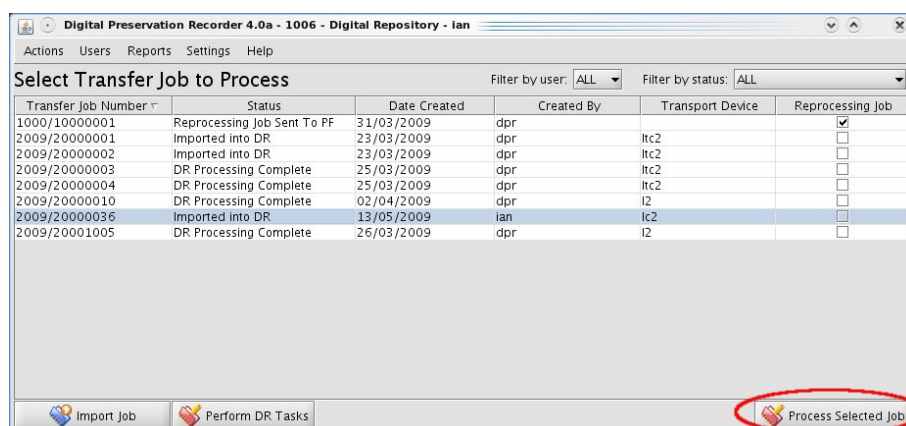


5. To import transfer job, click **Open** button.

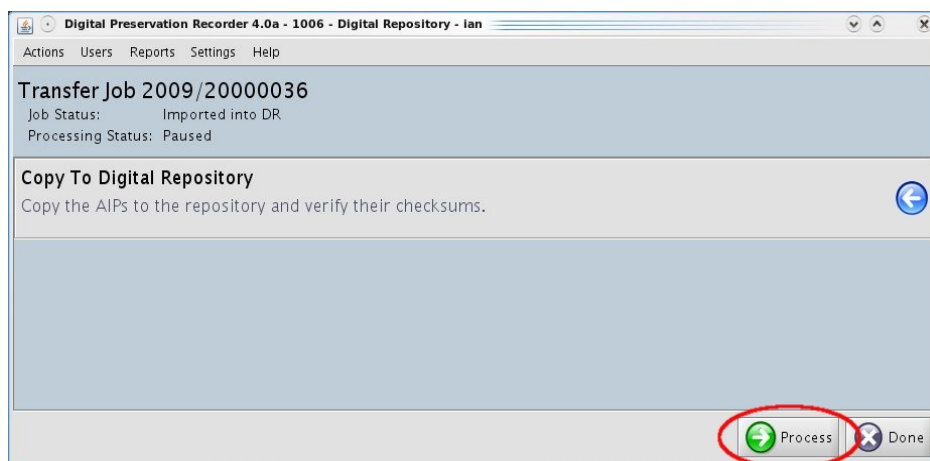
6.2.2 Copy to Archive

To copy the AIPs into the Digital Archive:

1. Log on to DPR at the DR workstation (see section 2 *Log On*).
2. To start processing, select the transfer job and click **Process Selected Job** button.



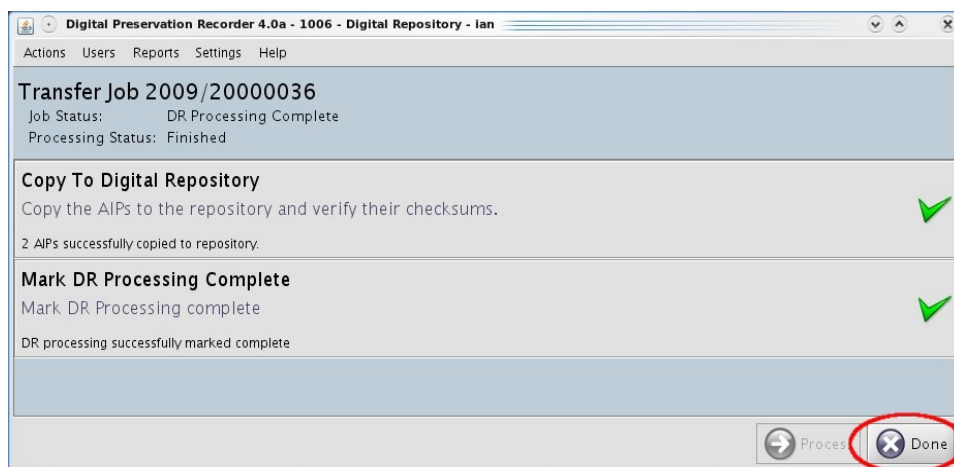
3. To begin the copy to archive process, click **Process** button.



DPR:

- calculates checksums for the AIPs on the input carrier and compares them to the checksums in the transfer job.
- copies the AIPs and the transfer job information into the Digital Archive.
- calculates checksums for the copied AIPs and compares them to the checksums in the transfer job.

4. To return to *Select Transfer Job* window, click the **Done** button



5. Disconnect the input carrier device from the network.
The archiving process is now complete.

7 Digital Repository Tasks

This section describes the tasks that you can perform within DR.

7.1 Overview

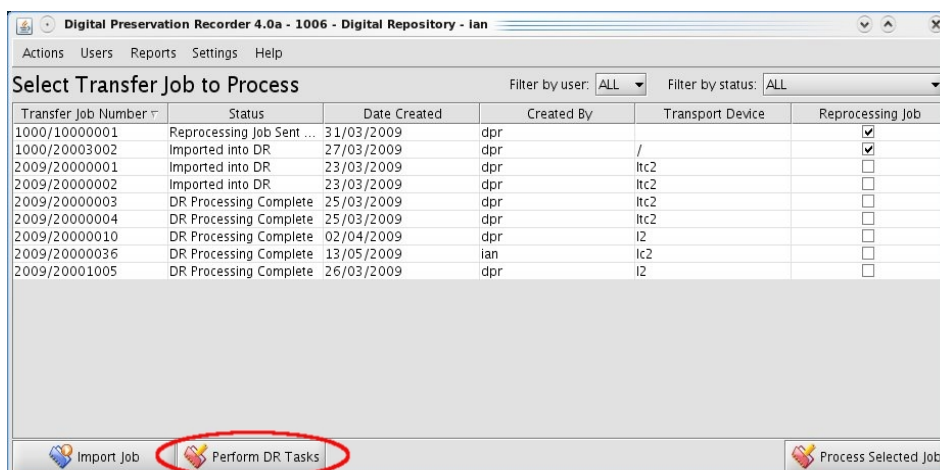
The DR facility has three supplementary functions accessed through the *Digital Repository Task* window:

- **Reprocessing**
Some kinds of data objects may not be able to be normalised to the required level of quality in the preservation process. These objects are still stored in the Digital Archive in binary format. Future enhancements to the normalisation functions may allow the opportunity to re-visit these objects and perform preservation again to improved effect.
- **Copy for Access**
Data objects that are stored in the Digital Archive can be retrieved and copied onto a carrier device. To access an object you need the item number/barcode provided by the National Archives Record Handling Unit. Both normalised objects and original (binary normalised) objects may be accessed.

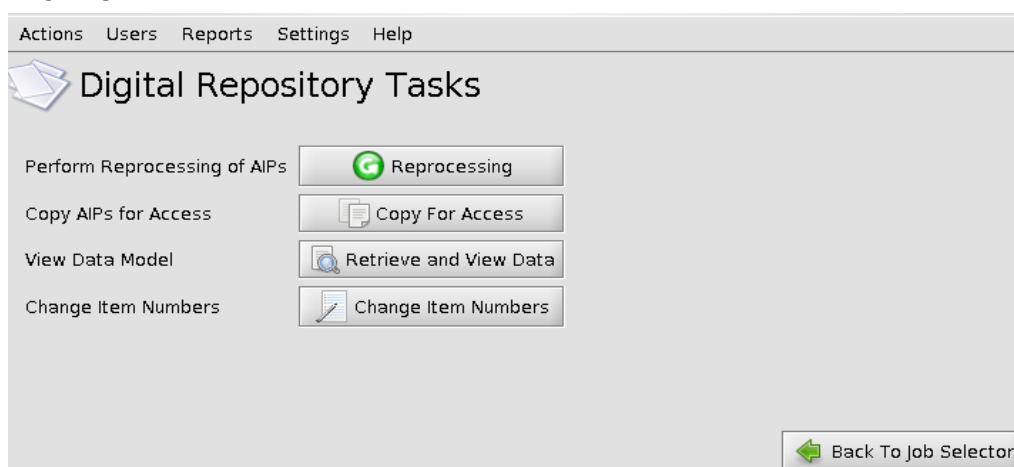
Data Objects copied from the repository are in .xena format which means they must be rendered using Xena or Xena Viewer software.
- **Retrieve and view metadata**
In addition to the archived data itself, the Digital Archive also stores metadata about the archived material. This metadata can be accessed on data objects, AIPs, transfer jobs and reprocessing jobs.
- **Change Item Numbers**
Item numbers\barcodes of the Data Objects stored in the Digital Archive can be corrected using the Change Item Numbers task. Only users with administrator permissions will be able to perform this task.

7.2 Access Digital Repository Task Panel

1. Log on to DPR at the DR workstation (see section 2 *Log On*).
2. Click the **Perform DR Tasks** button.



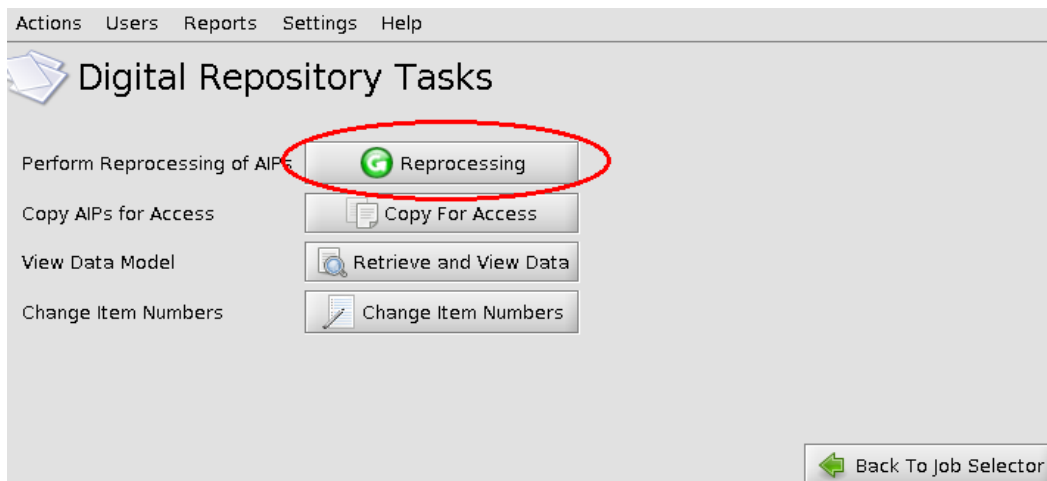
3. The *Digital Repository Task* window is displayed. Reprocessing from the Archive



7.3 Reprocessing from the Archive

To create a reprocessing job:

1. Connect a carrier device to the DR workstation.
2. Log on to DPR (see section 2 *Log On*).
3. Click the **Perform DR Tasks** button.
4. Click the **Reprocessing** button.



5. Define Selection Criteria:

A reprocessing job consists of a group of related data objects that need to go through the preservation process again. To extract the data objects you need, and add them to the reprocessing job, you define one or more search criteria.

Each of the criteria is constructed from three components chosen from drop-lists. For example: *<where AIP status> <is> <for replacement>*. The first drop-down list sets the main search criterion – data object name, type or status.

The second drop-down list sets whether your search is inclusive or exclusive. For example, you can search for all objects with status available or all objects with a status that are **not** available.

The third field sets the detail of the object to be found.

Note: The nature of this field depends on the selection made in the first drop-down list. If the first field is set to: *where data object name*, this field displays as a text field.

Selection Criteria

Criteria

Define a new search criteria

where data object mime-type is application/gzip

Add criteria

Reprocessing Reason

Reason for Reprocessing:

- application/gzip
- application/macbinary
- application/mbox
- application/msoutlook
- application/octet-stream
- application/pdf
- application/rtf
- application/tar

6. Click the **Add Criteria** button to add the criteria you have set to the list.

Selection Criteria

Criteria

Define a new search criteria

where data object mime-type is audio/mp3

Add criteria

You can remove criteria from the list by clicking the red 'x' to the right of the criteria listing.

7. Enter the reprocessing job details:

- Job Number (format is NNNN/NNNNNNNN) the first four digits default to the value set under the *Update Repository Settings* menu. Click the **Suggest Job Number** button for a number incremented from the last reprocessing job number used.
- Reason for Reprocessing.
- Output Location (location of the carrier device).

8. Optional. Click the **Preview** button to see which objects will be included in the transfer job.

The screenshot shows the 'Create Reprocessing Job' window. The 'Enter Job Number' field contains '1000/20003003'. The 'Selection Criteria' section has a dropdown menu set to 'where data object mime-type' and a value of 'audio/flac'. Below this, there are two rows of criteria: 'where data object mime-type is audio/mp3' and 'where data object mime-type is audio/flac'. The 'Reprocessing Reason' section has a text box containing 'Audio normalisation testing'. The 'Output Location' section has a text box containing '/media/X126/Carrier X126 A' and a 'Browse' button. The 'Preview' section has a 'Preview' button circled in red. The 'Copy AIPs' section has a 'Create Reprocessing Job' button with a green arrow icon. A 'Back To Job Selector' button is at the bottom right.

9. Click the **Create Reprocessing Job** button to extract the data objects from the archive and copy them onto the carrier device.

This screenshot is identical to the previous one, showing the 'Create Reprocessing Job' window. In this view, the 'Create Reprocessing Job' button in the 'Copy AIPs' section is circled in red, indicating the next step in the process.

The reprocessing job has been created.

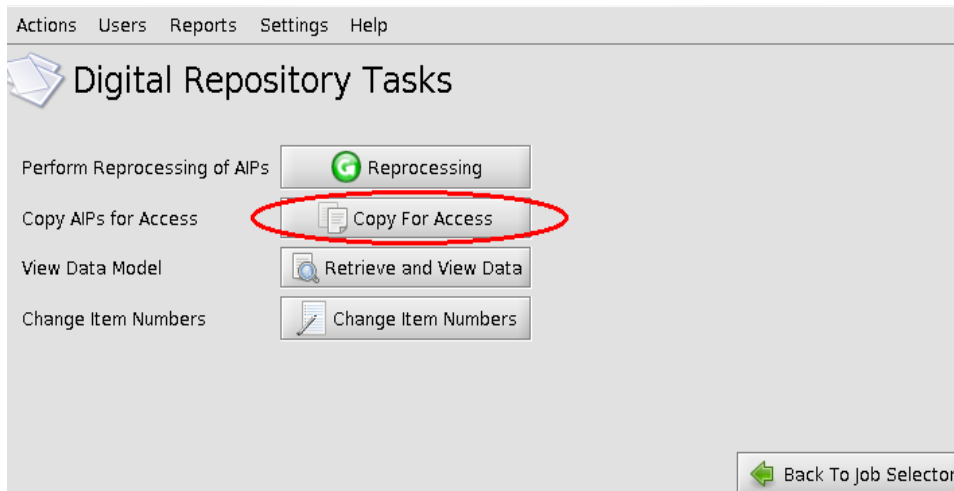
10. Disconnect the carrier device from the network.

The reprocessing job can now be imported into PF and processed in the same way that a normal transfer job is processed (see section 5 *Preservation*).

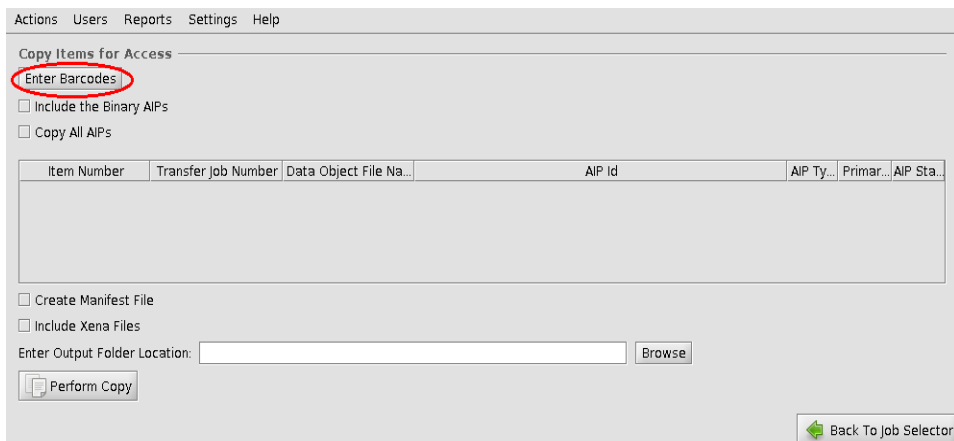
7.4 Copy for Access

To retrieve AIPs from the repository:

1. Log on to DPR at the DR workstation(see section 2 *Log On*).
2. Click the **Perform DR Tasks** button.
3. Click the **Show Copy for Access Panel** button.



4. Click the **Enter Barcodes** button.



5. Enter the barcode/item number of the item you wish to retrieve and click the **Add** button:
 - you can add as many barcodes to the list as required.
 - the **Clear** button removes all barcodes from the list.
 - the **Remove Selected** button removes only selected/highlighted barcode(s).

Optional.

Enter barcodes via a barcode scanner:

- Click on the **Barcode** field.
- Scan the (physical) barcode(s).

- Each barcode scanned is automatically added to the list (no need to click the **Add** button).

Use the Import button to import the barcodes from a list:

- Click on the **Import** button.
- Select the barcode list and click ok
- All barcodes for the list will be imported.

6. To retrieve the listed Items from the archive, click the **OK** button.
The *Copy Items for Access* window is displayed.

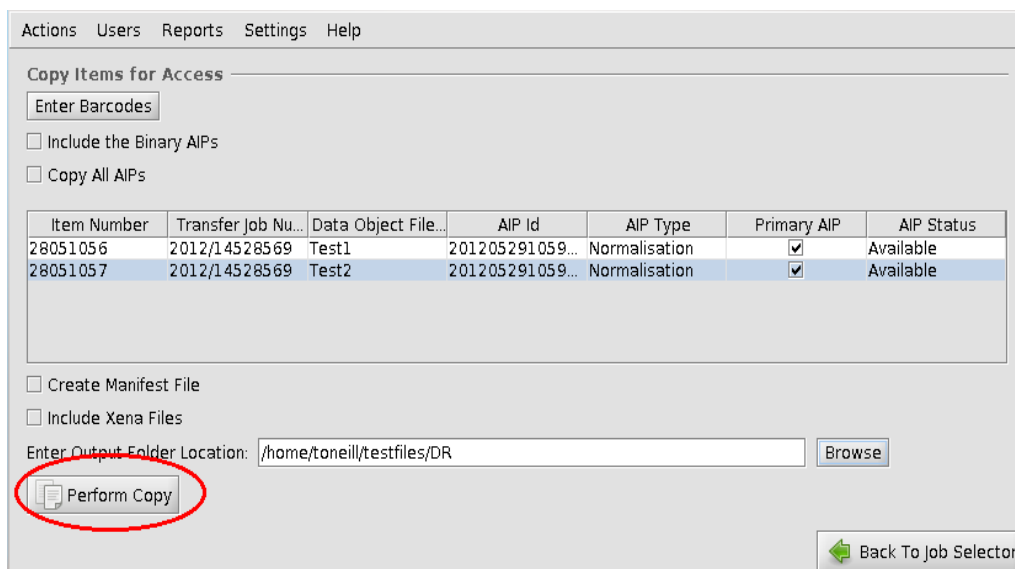
Item Number	Transfer Job Nu...	Data Object File...	AIP Id	AIP Type	Primary AIP	AIP Status
28051056	2012/14528569	Test1	201205291059...	Normalisation	☒	Available
28051057	2012/14528569	Test2	201205291059...	Normalisation	☒	Available

7. By default, the panel will display the normalised AIPs for each Item number.
It will not display the binary normalised AIPs or AIPs which have been

reprocessed and replaced by newer versions.

- Click the **Include Binary AIP** checkbox to include the binary normalised AIPs
- Click the **Copy all AIPs** checkbox to include all AIPs for the Item Number including binary and replaced AIPs
- Click the **Create Manifest File** Checkbox – the manifest file will list all AIPs in the Job and includes the checksum for each one.
- Click the **Include Xena Files checkbox** to copy the Xena files themselves as well rather than just the data objects and preservation format files contained within Xena files.

8. Enter the location of the output folder – this is where the AIPs will be copied to. This should be located on a carrier device.



The screenshot shows a software interface titled 'Copy Items for Access'. It has a menu bar with 'Actions', 'Users', 'Reports', 'Settings', and 'Help'. Below the menu bar is a section with a button 'Enter Barcodes'. There are two checkboxes: 'Include the Binary AIPs' and 'Copy All AIPs'. A table with 7 columns is displayed: 'Item Number', 'Transfer Job Nu...', 'Data Object File...', 'AIP Id', 'AIP Type', 'Primary AIP', and 'AIP Status'. The table contains two rows of data. Below the table are two more checkboxes: 'Create Manifest File' and 'Include Xena Files'. There is a text input field for 'Enter Output Folder Location:' with the value '/home/tonell/testfiles/DR' and a 'Browse' button. At the bottom left, the 'Perform Copy' button is circled in red. At the bottom right, there is a 'Back To Job Selector' button with a green arrow icon.

Item Number	Transfer Job Nu...	Data Object File...	AIP Id	AIP Type	Primary AIP	AIP Status
28051056	2012/14528569	Test1	201205291059...	Normalisation	☒	Available
28051057	2012/14528569	Test2	201205291059...	Normalisation	☒	Available

9. Click the Perform Copy button to copy the AIPs to the output folder.
The output will be sorted into folders by item/barcode number.

7.5 Retrieve and View Metadata

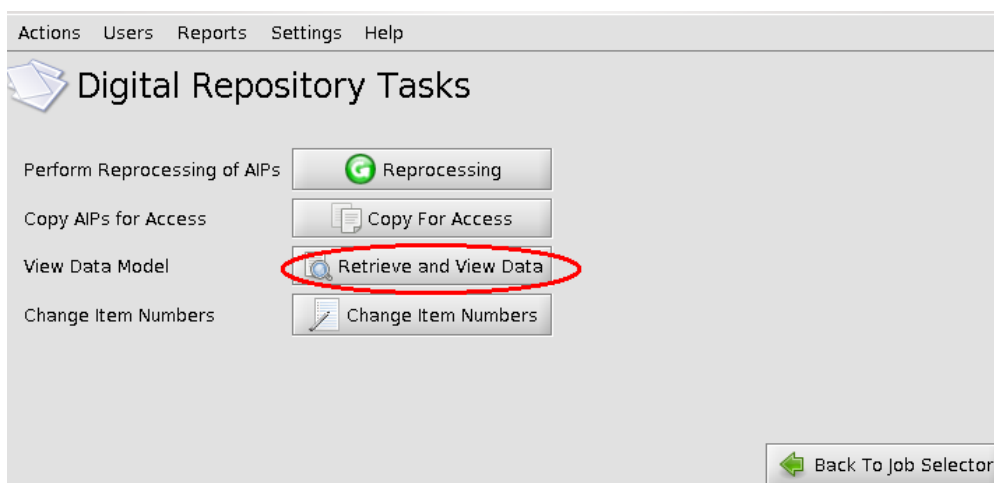
DPR collects metadata on all the processing undergone by data in the archiving workflow.

Each DPR facility (QF, PF and DR) produces audit information for the processing done in that facility. DR holds all the audit information from the previous facilities as well as storing data on objects and AIPs.

7.5.1 Access the Retrieve and View Data Window

To open the *Retrieve and View Data* window:

1. Log on to DPR at the DR workstation (see section 2 *Log On*).
2. Click the **Perform DR Tasks** button.
3. Click the **Retrieve and View Data** button.



4. The *Retrieve and View Data* window has four tabs. Select a tab to display the options for that category of metadata:
 - Data Object
 - Archival Information Package
 - Transfer Job
 - Reprocessing Job.

Search by Data Object Information

Data Object Name

Media Id

Use Transfer Job Number ☐

TransferJob Number

Select MIME Type

Perform Search

Search By Item Number

Enter Item Number

Results

Data Object File Name	Media ID	Transfer Job	Item Number
-----------------------	----------	--------------	-------------

7.5.2 Data Object

To retrieve preservation audit information on a data object:

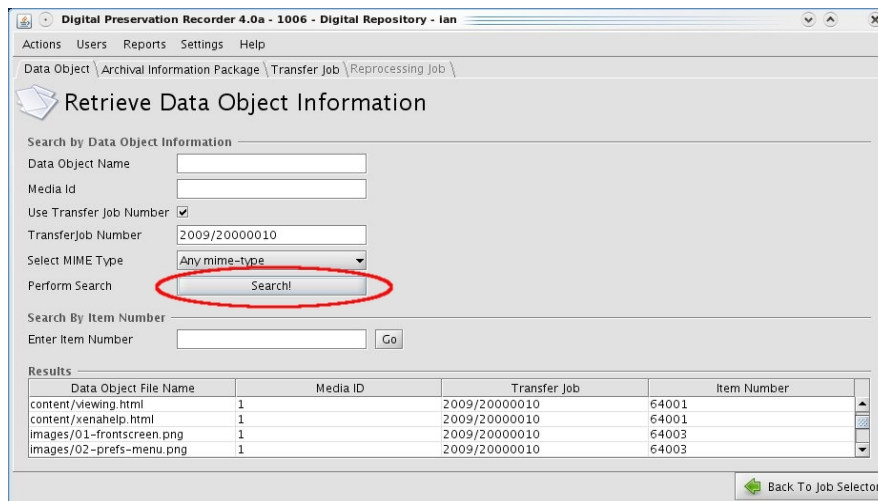
1. Access the *Retrieve and View Data* window (see section 7.5.1).
2. Click the **Data Object** tab.
3. Search for required data object:
 - Enter the Data Object Name (the input file name).
 - Optional. Enter the Media Id.
 - Click **Search** button.

OR

- Click the **Use Transfer Job** checkbox.
- Enter Transfer Job Number.
- Optional. Select MIME type to search for.
- Click **Search** button.

OR

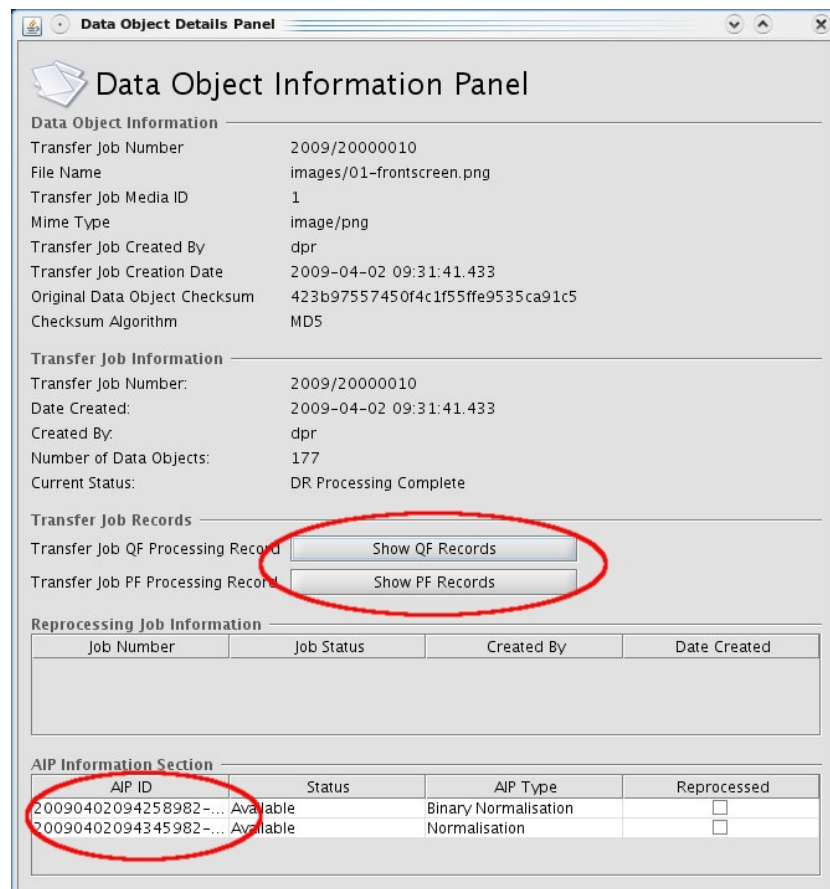
- Enter Item Number (i.e. the Barcode Number). This may also be scanned in with a Barcode scanner after selecting this field.
- Click the **Go** button.



4. Double-click the data object you want from the table.

This displays the *Data Object Information Panel* window containing basic information about the data object. You can access additional information about the processing of the data object:

- Click **Show QF records** button for QF processing data
- Click **Show PF records** button for PF Processing Data
- Double-click an entry in the *AIP Information Section* to open a separate AIP information window (see below).



7.5.3 Archival Information Package

To retrieve preservation audit information on an AIP:

1. Access the *Retrieve and View Data* window (see section 7.5.1).
2. Click on the **Archival Information Package** tab.

Search by Data Object Information

Data Object Name:

Media ID:

Use Transfer Job Number: ☐

Transfer Job Number:

Select MIME Type:

Perform Search:

Search By Item Number

Enter Item Number:

Results

Data Object File Name	Media ID	Transfer Job	Item Number
-----------------------	----------	--------------	-------------

3. Enter AIP ID.
4. Click **Search** button

Search for archived AIPs by ID

Enter AIP ID:

Showing: 1 of 29808 AIPs in Repository

Results

AIP ID	Status	Type
20090402094338187-Entries.Extra-0a51e184	Available	Normalisation

5. Double-click on the AIP that you want information on.

This displays the *AIP Information* window.

AIP Information for 20090402094338187-Entries.Extra-0a51e184

AIP ID: 20090402094338187-Entries.Extra-0a51e184 Open AIP

AIP Information

AIP Type: Normalisation
Status: Available
Date into Quest: 2009-04-02T10:33:46+11:00

Creation Information

Xena Version: 4.2.1
Normaliser Name: Plaintext
Normaliser Version: 4.2.1

AIP Records

Preservation Processing records Show
Repository Processing records Show

Source Data Objects

Transfer Job	File Name	RecordSearch Barcode	Mime Type	Date Finalised
2009/20000010	C/S/Entries.Extra	64000	text/plain	02/04/2009

Embedded Objects

Name	Mime Type	Normaliser Name	Normaliser Version
------	-----------	-----------------	--------------------

Related AIPs

AIP Id	AIP Type	Status	Normaliser Name	Normaliser Version
20090402094252159...	Binary Normalisation	Available	Binary	4.2.1

From the *AIP Information* window you can do the following:

- to view AIP contents, click **Open AIP** button.
- to view PF processing data, click **Show Preservation Processing Records** button.
- to view DR processing data, click **Show Repository Processing Records** button.
- to view data object Data (see above), double-click entry in **Source Data Object** table.
- to view data on data objects embedded in the currently displayed AIP, double-click entry in **Embedded Objects** table.
- to view data on AIPs related to currently displayed AIP, double-click entry in **Related AIP** table.

7.5.4 Transfer Job

To retrieve preservation audit information on a transfer job:

1. Access the **Retrieve and View Data** window (see section 7.5.1).
2. Click on the **Transfer Job** Tab.

Digital Preservation Recorder 4.0a - 1006 - Digital Repository - ian

Actions Users Reports Settings Help

Data Object \ Archival Information Package \ **Transfer Job** \ Reprocessing Job \

Retrieve Data Object Information

Search by Data Object Information

Data Object Name

Media Id

Use Transfer Job Number ☐

Transfer Job Number

Select MIME Type

Perform Search

Search By Item Number

Enter Item Number

Results

Data Object File Name	Media ID	Transfer Job	Item Number
-----------------------	----------	--------------	-------------

3. Enter Transfer Job Number.
4. Click the **Retrieve** button.

Digital Preservation Recorder 4.0a - 1006 - Digital Repository - ian

Actions Users Reports Settings Help

Data Object \ Archival Information Package \ Transfer Job \ Reprocessing Job \

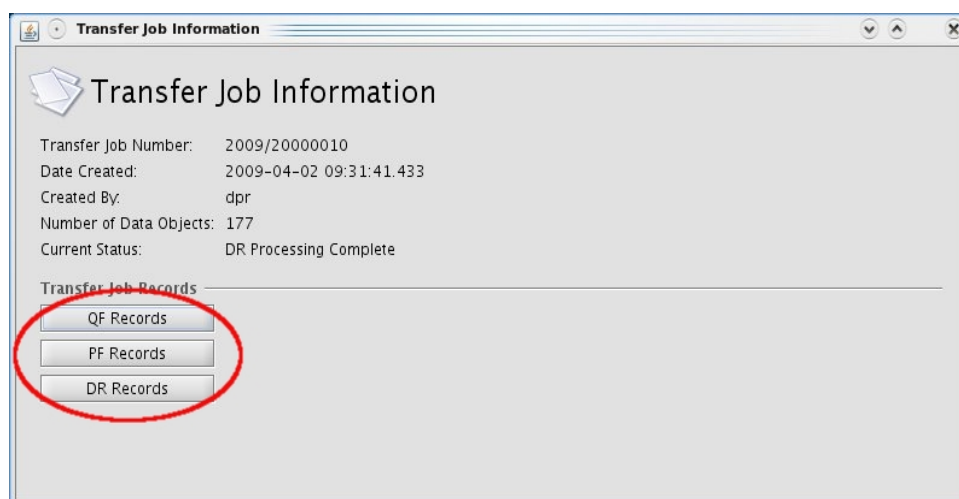
Retrieve Transfer Job Information

Enter Transfer Job

Results

Job Number	Status
2009/20000010	DR Processing Complete

The *Transfer Job Information* window is displayed.



From the *Transfer Job Information* window you can do the following:

- to view QF processing data, click **QF Records** button
- to view PF processing data, click **PF Records** button
- to view DR processing data, click **DR Records** button.

7.5.5 Reprocessing Job

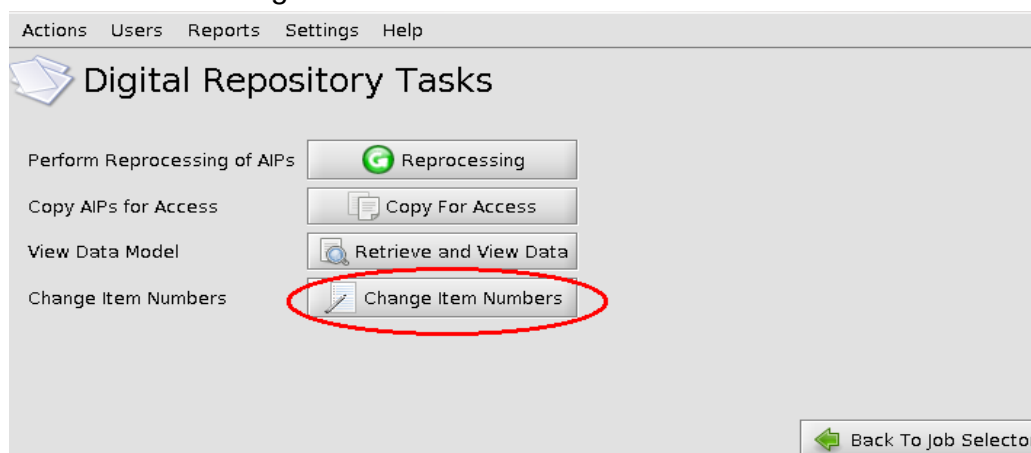
To retrieve preservation audit information on a reprocessing job:

This has not yet been implemented.

7.6 Change Item Numbers

To change Item numbers:

1. Log on to DPR
2. Click the perform DPR tasks button.
3. Click the Change Item Numbers button.



4. Enter the current and the new Item numbers and click on **Add** button
- You can add as many changes as required.
 - **Select All** button will select all rows.
 - The **Clear Selection** button removes selection from the highlighted rows.
 - The **Remove** button will remove all selected highlighted Item number changes from the list.

Actions Users Reports Settings Help

Create a list of item number changes by using the fields below.
Perform the changes by clicking the Change Item Numbers button.
NOTE: these changes cannot be automatically undone.

Current Item Number:

New Item Number:

Add

Current Item Number	New Item Number
1	2
3	4

5. Click on the **Change Item Numbers** button. A subset of the data objects that will be affected by the change will be displayed in the confirm Item Number Changes window.

Actions Users Reports Settings Help

Create a list of item number changes by using the fields below.
Perform the changes by clicking the Change Item Numbers button.
NOTE: these changes cannot be automatically undone.

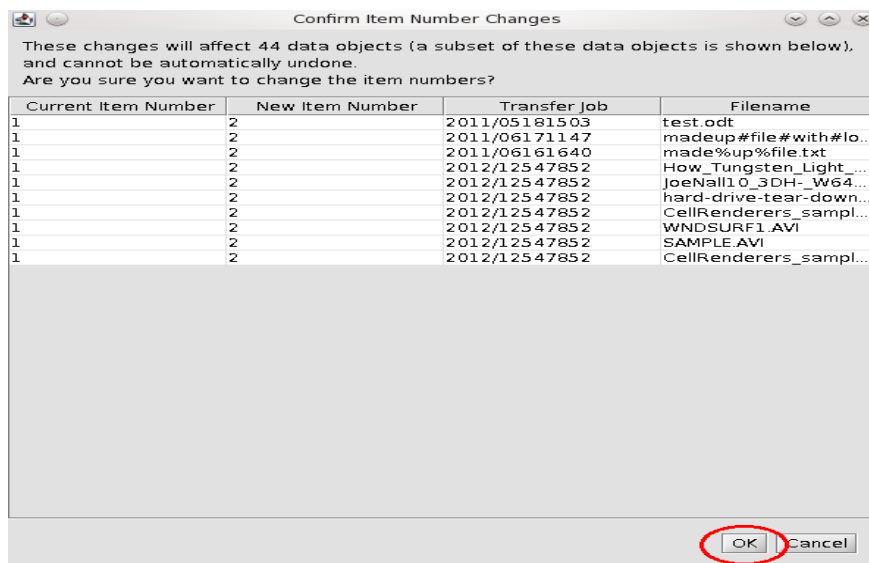
Current Item Number:

New Item Number:

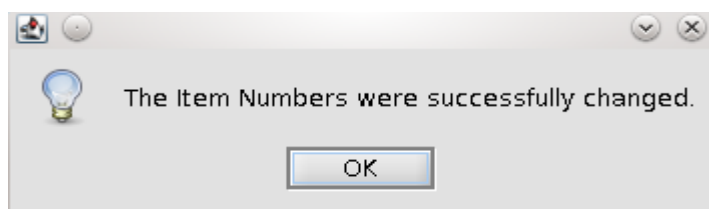
Current Item Number	New Item Number
1	2
3	4
5	6

Change Item Numbers

6. Click **OK** button to confirm changes or **Cancel** to discard changes.



7. Click **OK** on the confirmation dialogue box.



8 Reports

8.1 Overview

Each DPR facility is able to provide reports on the user and transfer job activity relevant to that facility.

8.2 Available Reports

The different DPR environments provide reports on different data:

DPR Facility	Available Reports
All	• User Reports • User Reports (Calendar Month) • User reports (Financial Year)
QF only	• Transfer Jobs that failed in QF • Transfer Jobs that were rejected
PF only	• Transfer Jobs that failed Normalisation • Transfer Jobs that failed Wrapping
DR only	• Barcodes Processed • Barcodes Processed (Calendar Month) • Barcodes Processed (Quarter) • Barcodes Processed (Financial Year) • DPR Statistics • DPR Statistics (Calendar Month) • DPR Statistics (Calendar Quarter) • DPR Statistics (Financial Quarter) • DPR Statistics (Financial Year) • Data Objects with no Normalised Record • Normalised AIP MIME Type breakdown • Transfer Jobs that failed in DR

8.3 Checksum Checker

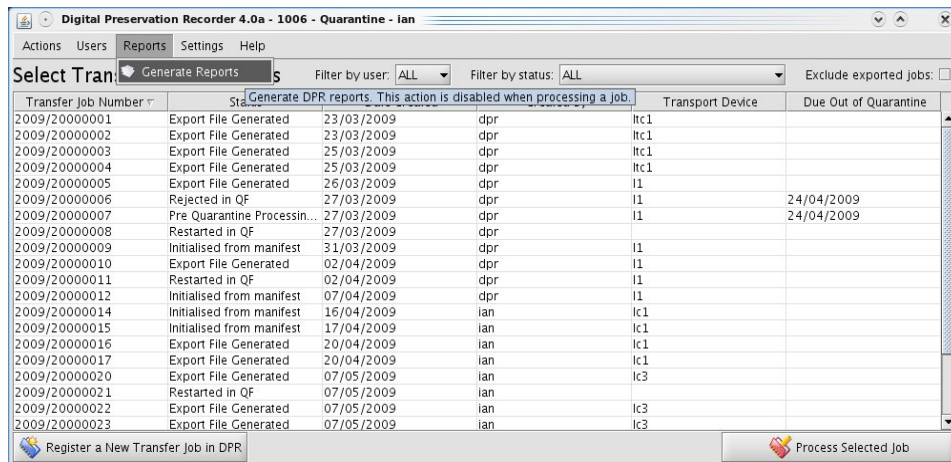
Checksum Checker is a piece of software that operates independently of DPR. It monitors the contents of the Digital Archive for data loss or corruption.

DR cannot produce certain reports unless Checksum Checker is run regularly.

8.4 Produce a Report

To produce a report on activity on QF, PF or DR:

1. Log on to the DPR facility you want to produce a report from (see section 2 *Log On*).
2. Select **Generate Report** from the **Reports** menu:

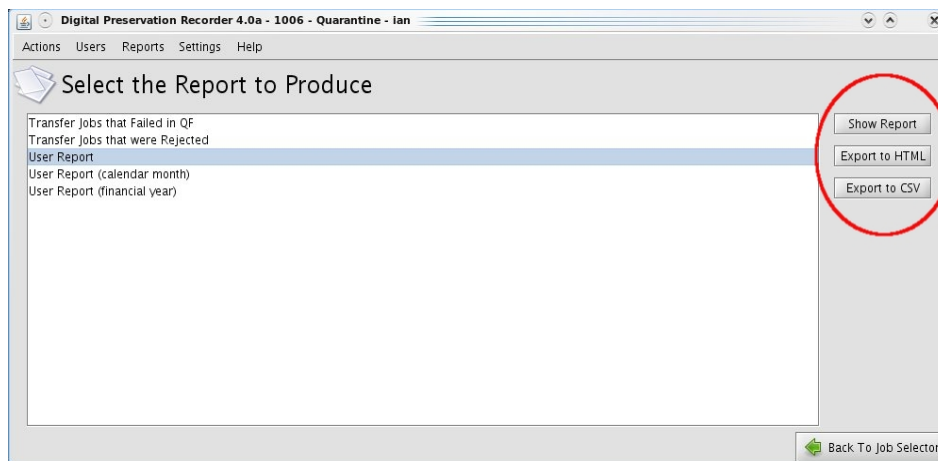


3. Select the subject or subjects for the report(s).

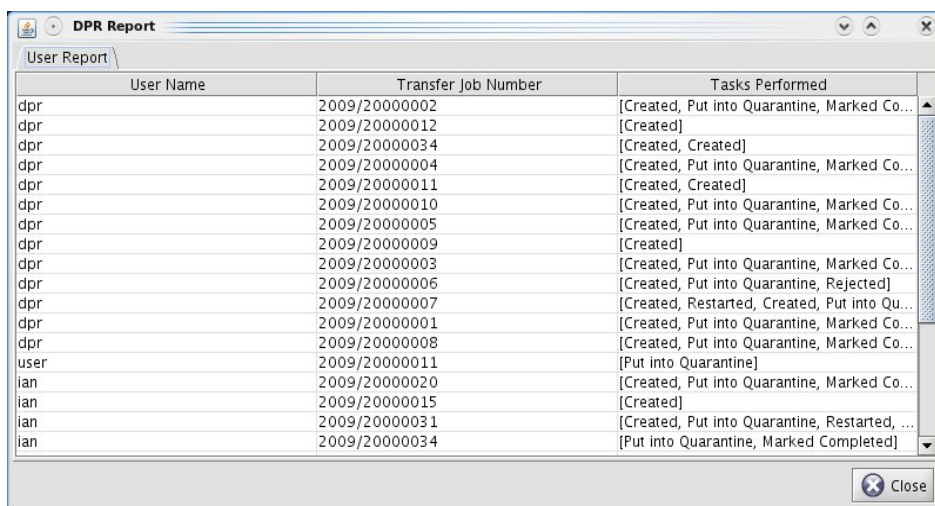
Note: Each DPR facility has a different set of reports.

There are three options for producing the report:

- Show Report
- Export to HTML
- Export to CSV



4. Click the **Show Report** Button to display the report in a window.

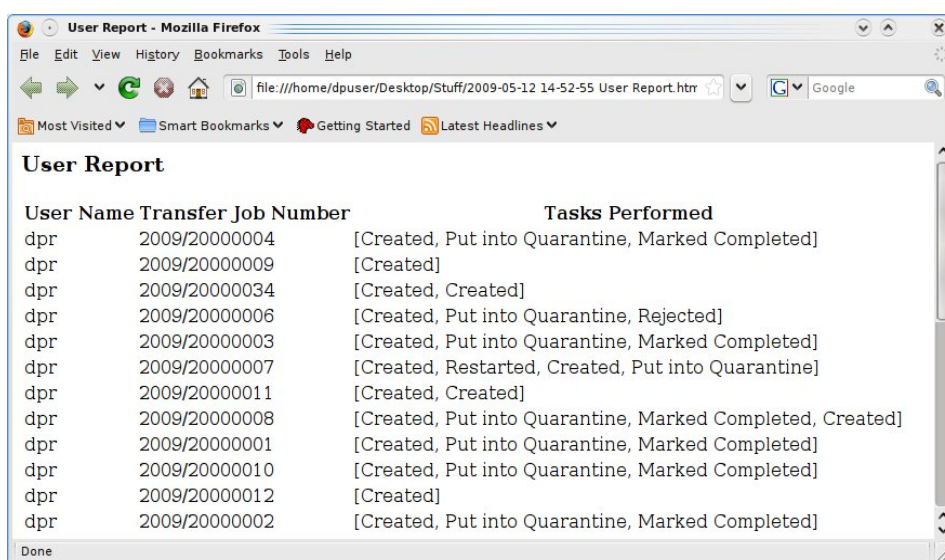


User Name	Transfer Job Number	Tasks Performed
dpr	2009/20000002	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000012	[Created]
dpr	2009/20000034	[Created, Created]
dpr	2009/20000004	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000011	[Created, Created]
dpr	2009/20000010	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000005	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000009	[Created]
dpr	2009/20000003	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000006	[Created, Put into Quarantine, Rejected]
dpr	2009/20000007	[Created, Restarted, Created, Put into Qu...
dpr	2009/20000001	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000008	[Created, Put into Quarantine, Marked Co...
user	2009/20000011	[Put into Quarantine]
ian	2009/20000020	[Created, Put into Quarantine, Marked Co...
ian	2009/20000015	[Created]
ian	2009/20000031	[Created, Put into Quarantine, Restarted, ...]
ian	2009/20000034	[Put into Quarantine, Marked Completed]

5. Click the **Export to HTML** button to save the report in html format.

The report is saved with the filename:

yyyy-mm-dd hh-mm <report type>.html

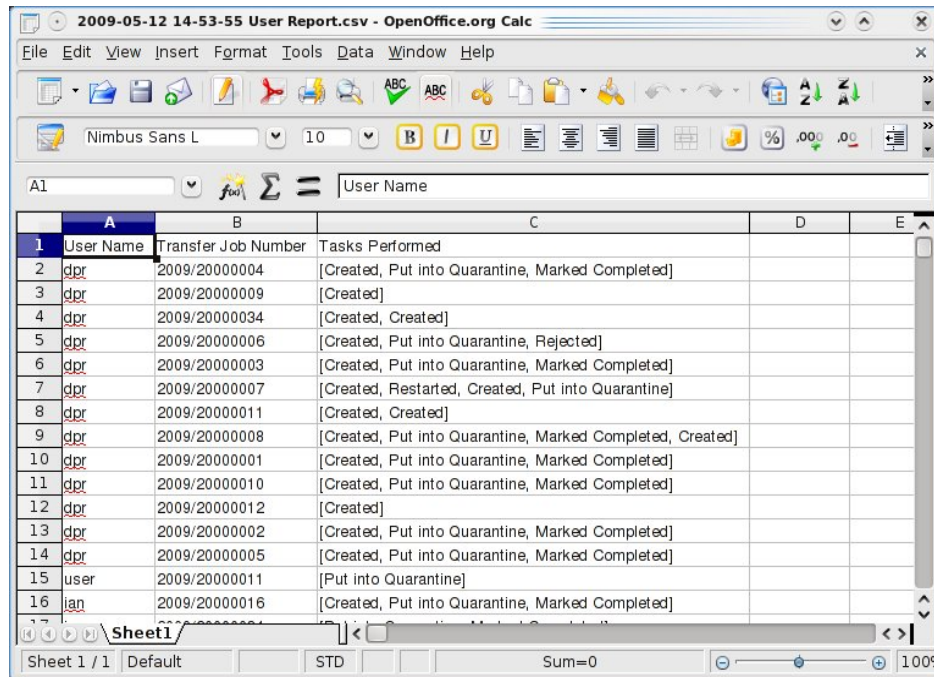


User Name	Transfer Job Number	Tasks Performed
dpr	2009/20000004	[Created, Put into Quarantine, Marked Completed]
dpr	2009/20000009	[Created]
dpr	2009/20000034	[Created, Created]
dpr	2009/20000006	[Created, Put into Quarantine, Rejected]
dpr	2009/20000003	[Created, Put into Quarantine, Marked Completed]
dpr	2009/20000007	[Created, Restarted, Created, Put into Quarantine]
dpr	2009/20000011	[Created, Created]
dpr	2009/20000008	[Created, Put into Quarantine, Marked Completed, Created]
dpr	2009/20000001	[Created, Put into Quarantine, Marked Completed]
dpr	2009/20000010	[Created, Put into Quarantine, Marked Completed]
dpr	2009/20000012	[Created]
dpr	2009/20000002	[Created, Put into Quarantine, Marked Completed]

6. Click the **Export to CSV** button to save the report in CSV format.

The Report is saved with the filename:

yyyy-mm-dd hh-mm <report type>.csv



	A	B	C	D	E
1	User Name	Transfer Job Number	Tasks Performed		
2	dpr	2009/20000004	[Created, Put into Quarantine, Marked Completed]		
3	dpr	2009/20000009	[Created]		
4	dpr	2009/20000034	[Created, Created]		
5	dpr	2009/20000006	[Created, Put into Quarantine, Rejected]		
6	dpr	2009/20000003	[Created, Put into Quarantine, Marked Completed]		
7	dpr	2009/20000007	[Created, Restarted, Created, Put into Quarantine]		
8	dpr	2009/20000011	[Created, Created]		
9	dpr	2009/20000008	[Created, Put into Quarantine, Marked Completed, Created]		
10	dpr	2009/20000001	[Created, Put into Quarantine, Marked Completed]		
11	dpr	2009/20000010	[Created, Put into Quarantine, Marked Completed]		
12	dpr	2009/20000012	[Created]		
13	dpr	2009/20000002	[Created, Put into Quarantine, Marked Completed]		
14	dpr	2009/20000005	[Created, Put into Quarantine, Marked Completed]		
15	user	2009/20000011	[Put into Quarantine]		
16	jan	2009/20000016	[Created, Put into Quarantine, Marked Completed]		

7. If you select a Calendar Month, Quarterly or Financial Year report, choose the time-frame from the drop list(s) and click the **OK** button to confirm.

Calendar Month:

Please select the calendar month for this report:

June 2009

OK Cancel

Quarterly:

Please select the quarter for this report:

Q2 2009

OK Cancel

Financial Year:

Please select the financial year for this report:

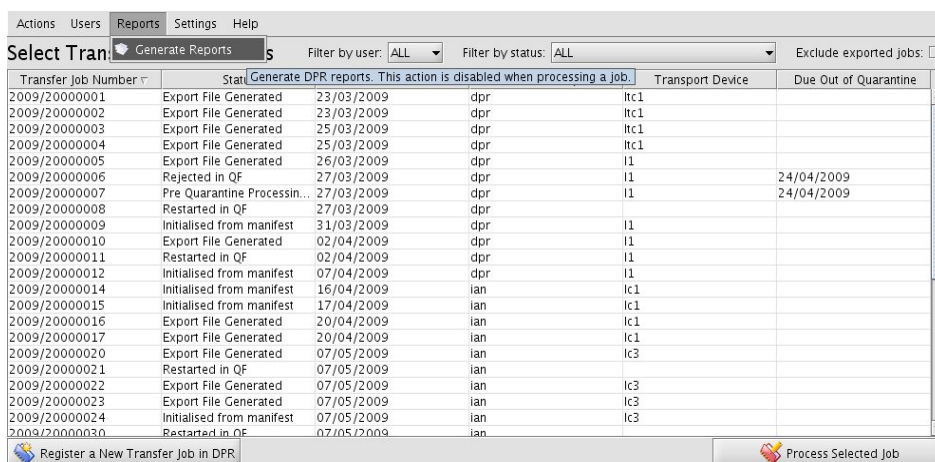
2008-2009

OK Cancel

8.5 Produce Multiple Reports

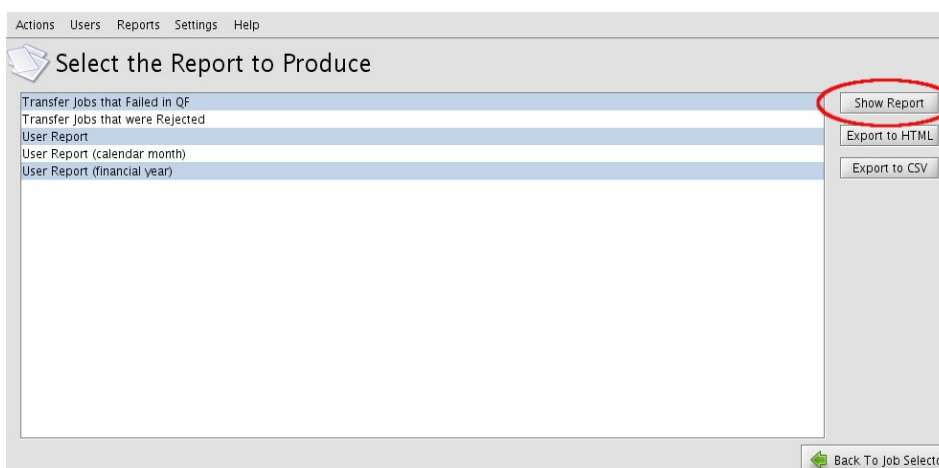
To produce more than one report at a time:

1. Log on to the relevant DPR facility (see section 2 *Log On*).
2. Select **Generate Report** from the **Reports** menu.



Transfer Job Number	Status	Date	User	Transport Device	Due Out of Quarantine
2009/20000001	Export File Generated	23/03/2009	dpr	lrc1	
2009/20000002	Export File Generated	23/03/2009	dpr	lrc1	
2009/20000003	Export File Generated	25/03/2009	dpr	lrc1	
2009/20000004	Export File Generated	25/03/2009	dpr	lrc1	
2009/20000005	Export File Generated	26/03/2009	dpr	l1	
2009/20000006	Rejected in QF	27/03/2009	dpr	l1	24/04/2009
2009/20000007	Pre Quarantine Processin...	27/03/2009	dpr	l1	24/04/2009
2009/20000008	Restarted in QF	27/03/2009	dpr		
2009/20000009	Initialised from manifest	31/03/2009	dpr	l1	
2009/20000010	Export File Generated	02/04/2009	dpr	l1	
2009/20000011	Restarted in QF	02/04/2009	dpr	l1	
2009/20000012	Initialised from manifest	07/04/2009	dpr	l1	
2009/20000014	Initialised from manifest	16/04/2009	ian	lrc1	
2009/20000015	Initialised from manifest	17/04/2009	ian	lrc1	
2009/20000016	Export File Generated	20/04/2009	ian	lrc1	
2009/20000017	Export File Generated	20/04/2009	ian	lrc1	
2009/20000020	Export File Generated	07/05/2009	ian	lrc3	
2009/20000021	Restarted in QF	07/05/2009	ian		
2009/20000022	Export File Generated	07/05/2009	ian	lrc3	
2009/20000023	Export File Generated	07/05/2009	ian	lrc3	
2009/20000024	Initialised from manifest	07/05/2009	ian	lrc3	
2009/20000030	Restarted in QF	07/05/2009	ian		

3. Hold down the control key and select the required reports with the mouse.
4. Click the **Show Report** button to continue.



All selected reports are displayed in the same window.

5. Click on the appropriate tab to view a specific report.

Transfer Jobs that Failed in QF \ User Report \ User Report (financial year)		
User Name	Transfer Job Number	Tasks Performed
dpr	2009/20000001	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000011	[Created, Created]
dpr	2009/20000042	[Created, Put into Quarantine]
dpr	2009/20000034	[Created, Created]
dpr	2009/20000002	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000012	[Created]
dpr	2009/20000007	[Created, Restarted, Created, Put into Qu...
dpr	2009/20000041	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000039	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000037	[Created, Put into Quarantine, Rejected]
dpr	2009/20000040	[Created, Put into Quarantine]
dpr	2009/20000008	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000004	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000003	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000048	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000043	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000038	[Created]
dpr	2009/20000005	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000009	[Created]
dpr	2009/20000010	[Created, Put into Quarantine, Marked Co...
dpr	2009/20000006	[Created, Put into Quarantine, Rejected]
user	2009/20000011	[Put into Quarantine]
ian	2009/20000011	[Restarted]
ian	2009/20000014	[Created]

6. If you choose to export the reports instead of viewing them, then each report is saved as a separate file.

9 Administration

9.1 Administer Users

Access to each stage of the DPR is controlled by a user ID and password.

Each user ID has either basic user permissions or administrator permissions. The permission determines which DPR functions are available.

Function	User	Admin	Facility
Register New Transfer Job	✓	✓	QF
Import Transfer Job	✓	✓	PF and DR
Copy data for Access	✓	✓	DR
Create Reprocessing Job	✓	✓	
Retrieve & View Data	✓	✓	
Process Transfer Job	✓	✓	QF, PF and DR
Generate Report	✓	✓	
Administer Transfer Job	x	✓	
Administer User IDs	x	✓	
Configure Settings	x	✓	

A user ID that is set as *Inactive* may not access the DPR until their status is reset to *Active* by an administrator.

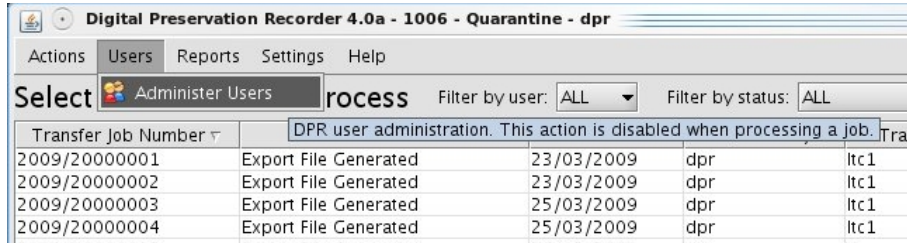
A user with administrator permission may Add new users to DPR and edit the settings of existing users.

A user ID set up or edited on one facility of the DPR is only valid on that facility. The ID information must be exported to the other facilities. Normally users are added or edited at the QF stage and exported to PF and DR.

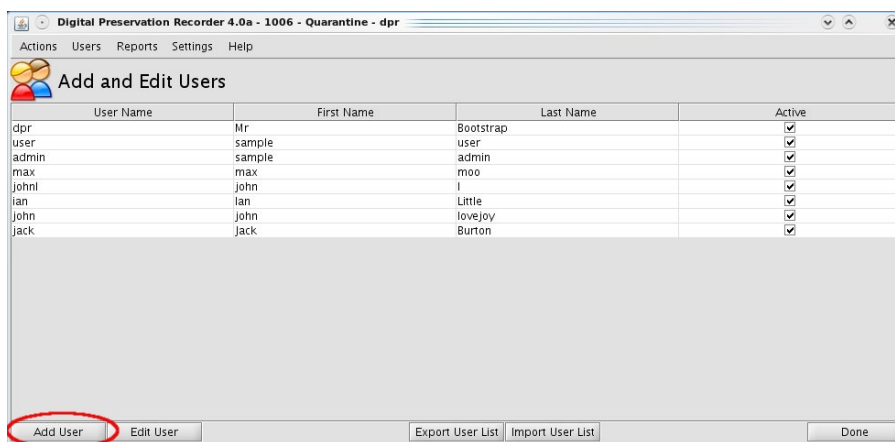
9.1.1 Add User

To add a new user:

1. Log on to QF as an administrator (see section 2 *Log On*).
2. Select **Users - Administer Users**.



3. Click **Add User** button:



4. Complete all user details fields.

To give the user administrator permissions click the *Administration Permission* checkbox.

User details

Enter Details of New User

User Details

User Name:

First Name: Last Name:

Password:

Confirm password:

User is active: ☒

Permissions

☐ Administration Permission

- Click the **OK** button.

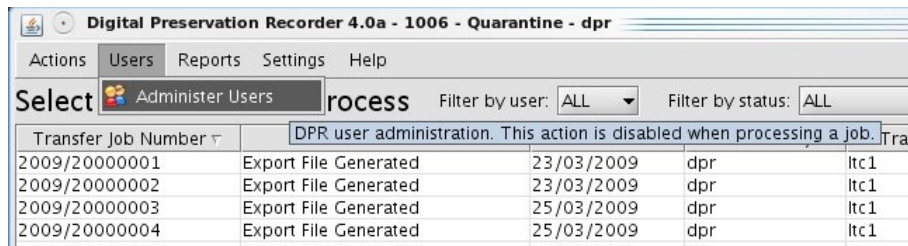
The *Add and Edit Users* window is displayed.

- To return to the *Select Transfer Job* window, click the **Done** button.

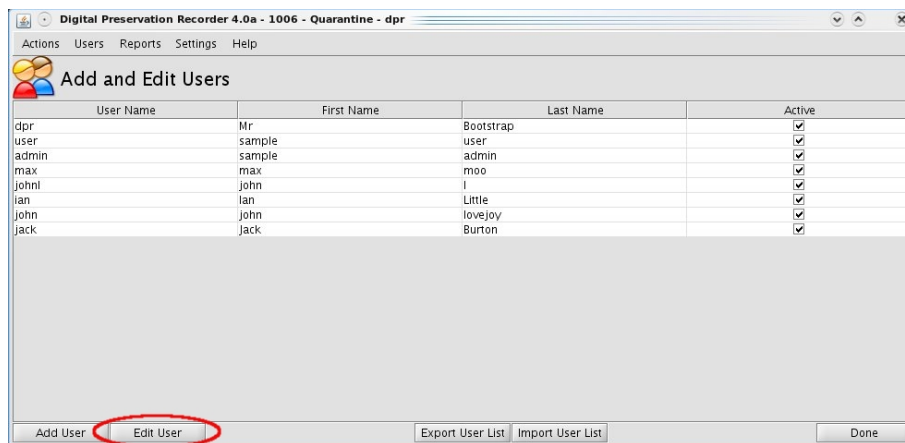
9.1.2 Edit User

To edit the details of an existing user:

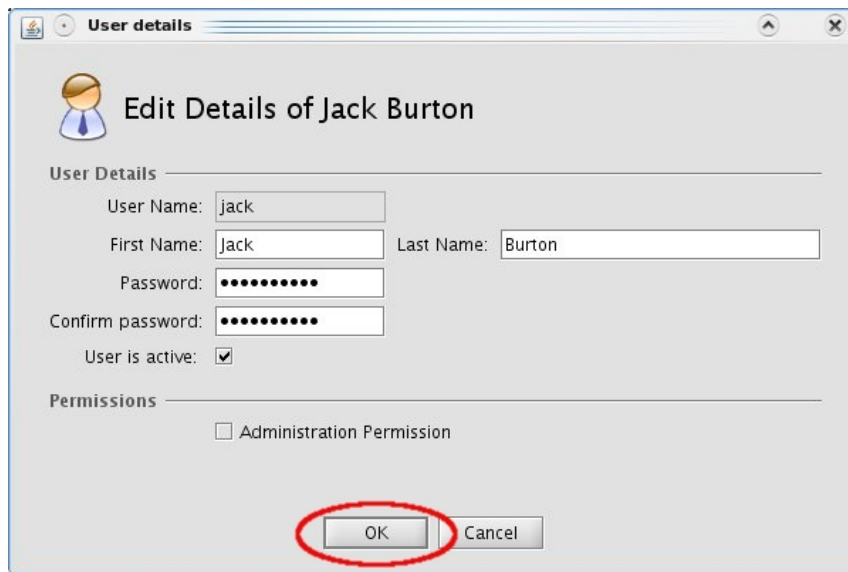
- Log on to QF as an administrator (see section 2 *Log On*).
- Select **Users - Administer Users**.



- Select the appropriate user and click **Edit User** button.



4. Update User Details fields.



The screenshot shows a window titled "User details" with a subtitle "Edit Details of Jack Burton". It features a user icon and several input fields: "User Name" (jack), "First Name" (Jack), "Last Name" (Burton), "Password" (masked with dots), and "Confirm password" (masked with dots). A checkbox labeled "User is active:" is checked. Below this is a "Permissions" section with a checkbox for "Administration Permission" which is unchecked. At the bottom, there are "OK" and "Cancel" buttons. The "OK" button is circled in red.

5. Click the **OK** button.

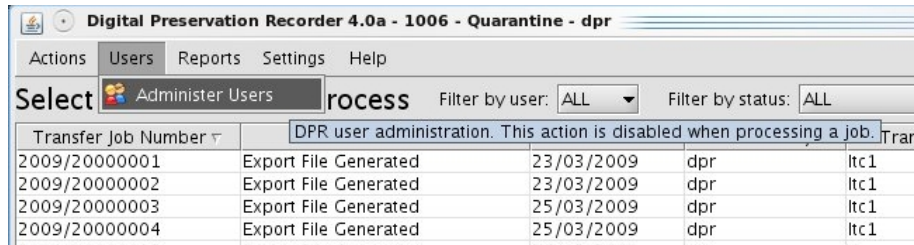
The *Add and Edit Users* window is displayed.

6. To return to the *Select Transfer Job* window, click the **Done** button.

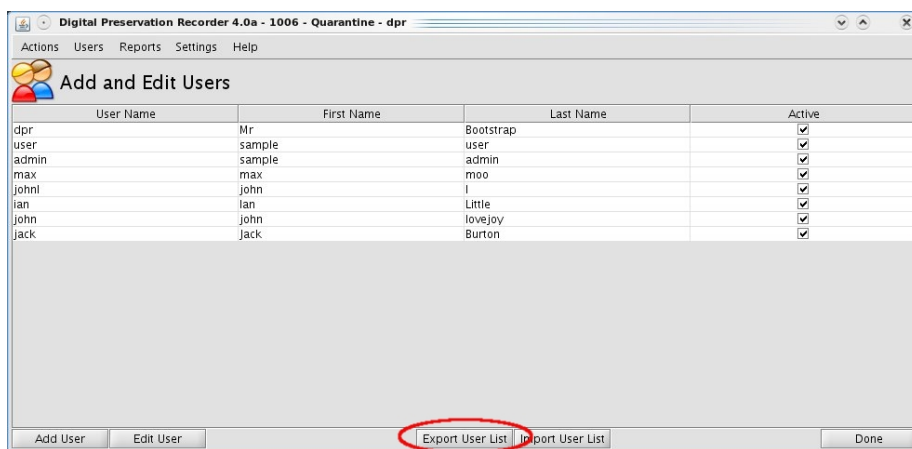
9.1.3 Export User List

To export an updated list of users for use on other DPR facilities:

1. Log on to QF as an administrator (see section 2 *Log On*).
2. Select **Users - Administer Users**.



3. Click **Export User List** Button



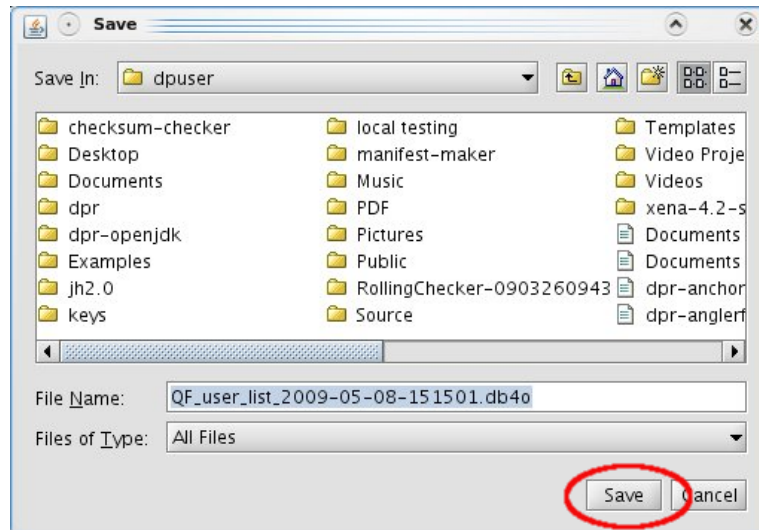
4. Select a carrier device as the location to save the user list.

The file name of the user list will default to:

XX_user_list_YYYY-MM-DD-TTTTTT.db40

(where XX is the current DPR facility – QF, PF or DR).

5. To return to the *Add and Edit Users* window, click the **Save** button.

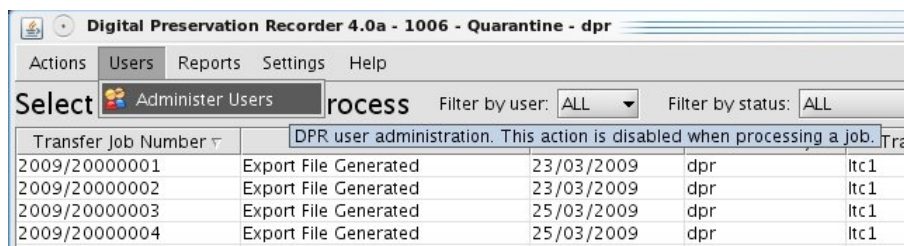


6. To return to the *Select Transfer Job* window, click the **Done** button.
7. Remove the carrier device.

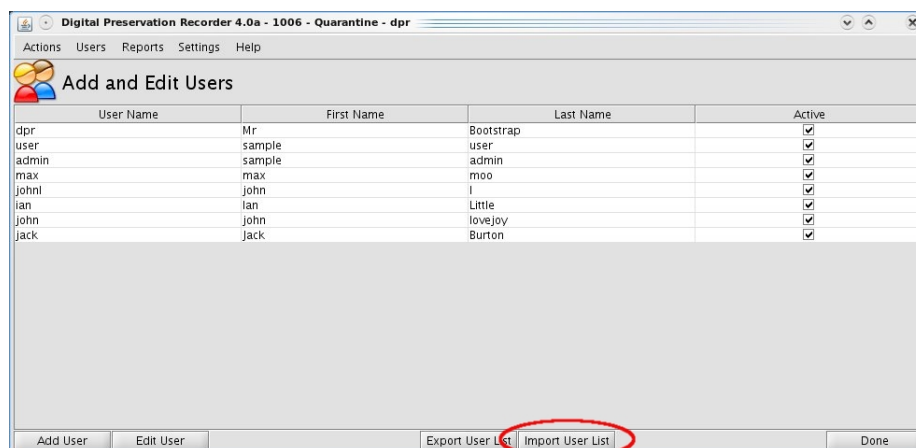
9.1.4 Import User List

To import an updated list of users to a DPR facility (QF, PF or DR):

1. Connect the carrier device holding the updated user list to the appropriate workstation.
2. Log on to that facility as an administrator (see section 2 *Log On*).
3. **Select Users - Administer Users.**



4. Click **Import User List** button

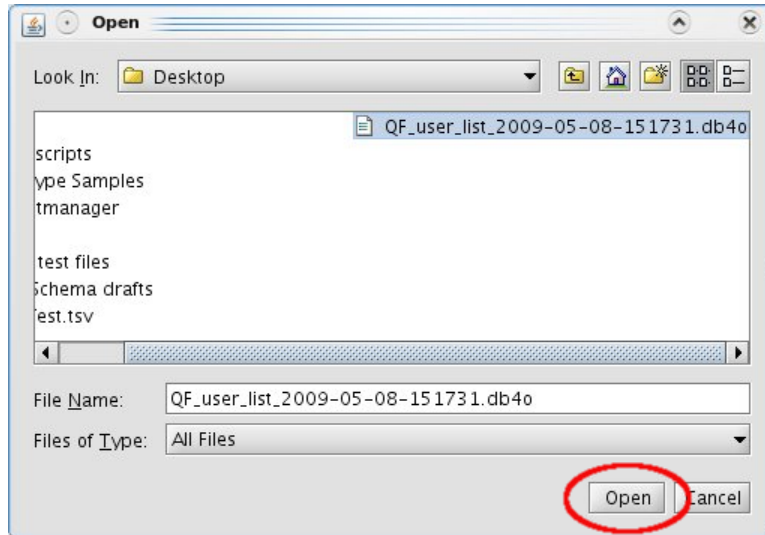


5. Select the carrier device where the user list is saved.
6. Select the user list to import.

The file name of the user list will be in the format:

XX_user_list_YYYY-MM-DD-TTTTTT.db40

(where XX is the originating DPR facility – QF, PF or DR)



7. Click the **Open** button
The *Add and Edit Users* window is displayed.
8. To return to the *Select Transfer Job* window, click the **Done** button.

9.2 Administer Transfer Jobs

A user with administrator permission may perform the following actions on a transfer job:

- Change Transfer Job Number

The transfer job number may only be changed in DR and only if the transfer job has completed processing.

- Delete Transfer Job

The transfer job cannot be deleted from DR stage once the DR processing is complete.

- Export Transfer Job

The Transfer Job data is normally exported from QF and PF at the end of each respective workflow.

This data can be re-exported if another copy is needed for any reason (see section 11, *Error Handling*).

- Reprocess Transfer Job

If a transfer job has been returned to QF from PF or returned to PF from DR (see section 11, *Error Handling*), the transfer job needs to be re-processed.

- Restart Transfer Job

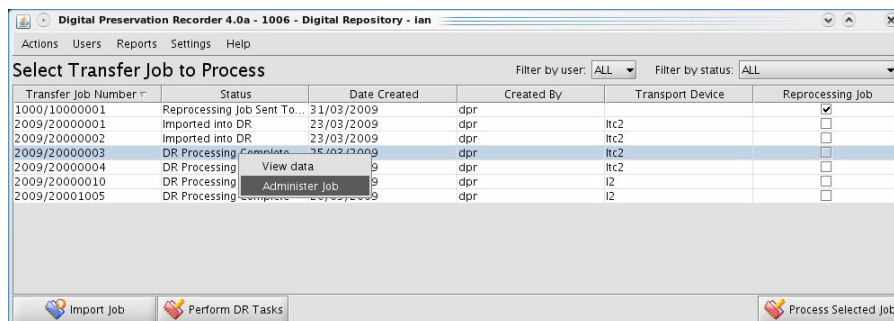
If a transfer job has not completed processing in a facility, it can be restarted within that facility.

Note: As DPR operates on three separate networks, deleting or changing a transfer job only affects the records on the current network.

9.2.1 Change Transfer Job Number

To change a transfer job Number:

1. Log on to DR as an administrator (see section 2, *Log On*).
2. Right-click on the appropriate transfer job in the table.

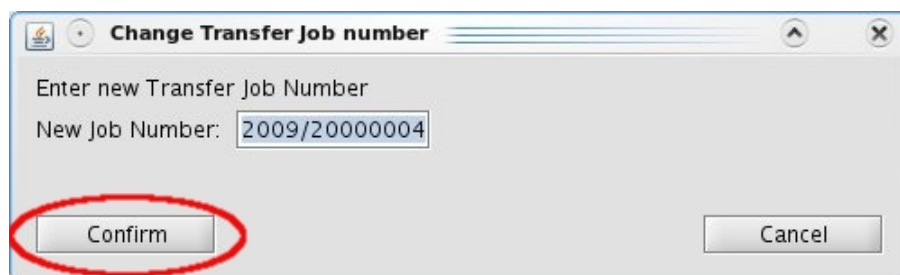


3. Select **Administer Job**.

4. Click **Change Job Number** button.



5. Enter new Transfer Job Number:



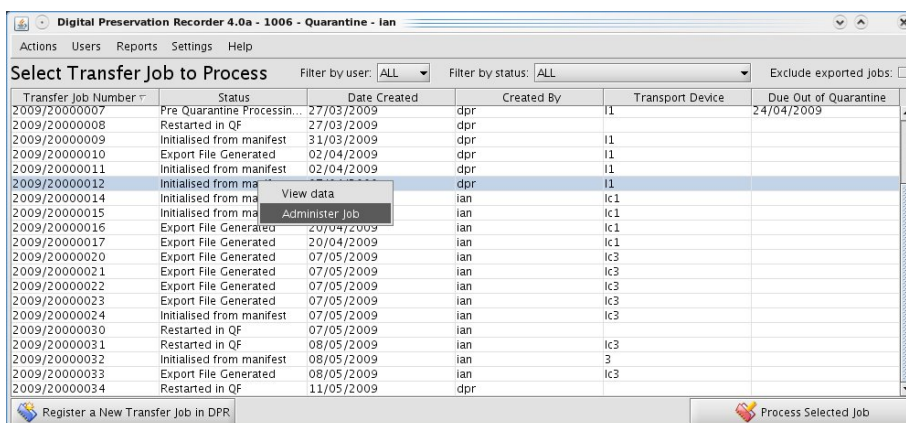
6. Click **Confirm** button

7. To return to the *Select Transfer Job* window, click **Back to Job Selector** button.

9.2.2 Delete Transfer Job

To delete a transfer job:

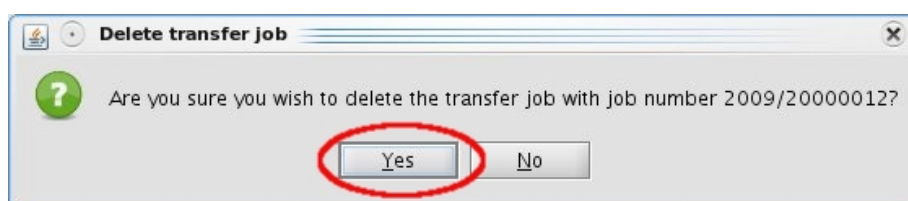
1. Log on to the appropriate facility as an administrator (see section 2, *Log On*).
2. Right-click on the appropriate transfer job in the table.
3. Select **Administer Job**.



4. Click **Delete Transfer Job** button



5. To confirm, click **Yes** button.



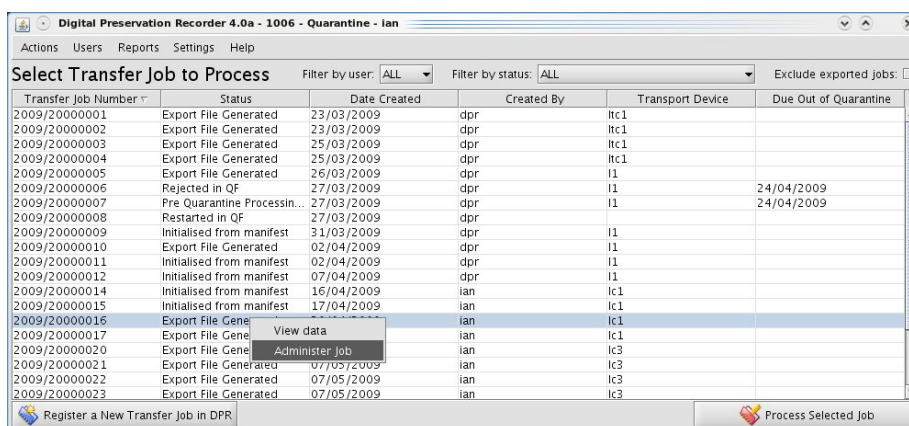
The *Select Transfer Job* window is displayed.

Note: The transfer job is only deleted from this particular facility. If a transfer job exists in more than one facility, you need to delete it from each facility.

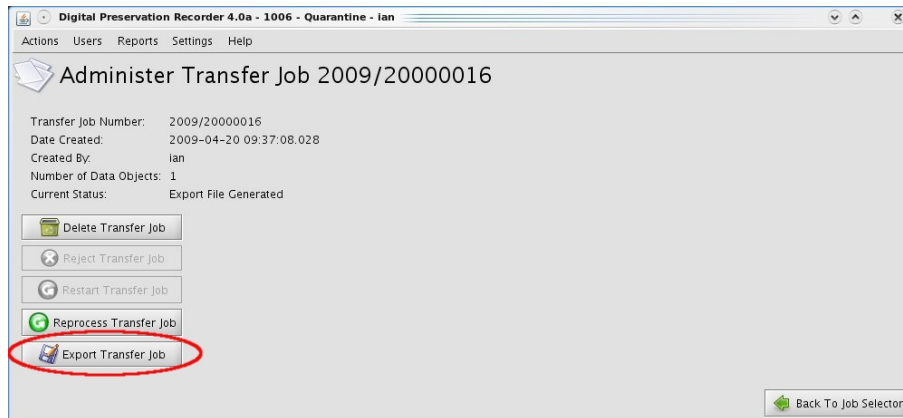
9.2.3 Export Transfer Job

To export transfer job data from QF or PF to the next facility:

1. Connect a carrier device to the appropriate workstation.
2. Log on to DPR as an administrator (see section 2, *Log On*).
3. Right-click on the appropriate transfer job in the table.
4. Select **Administer Job**.

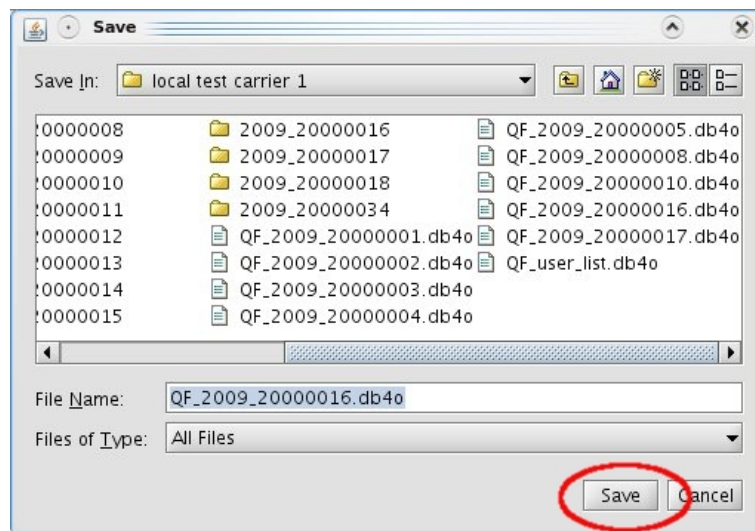


5. Click **Export Transfer Job** button.



6. Browse to carrier device location.

7. Click **Save** button.



8. To return to the Select Transfer Job window, click **Back to Job Selector** button.

9. Disconnect the carrier device.

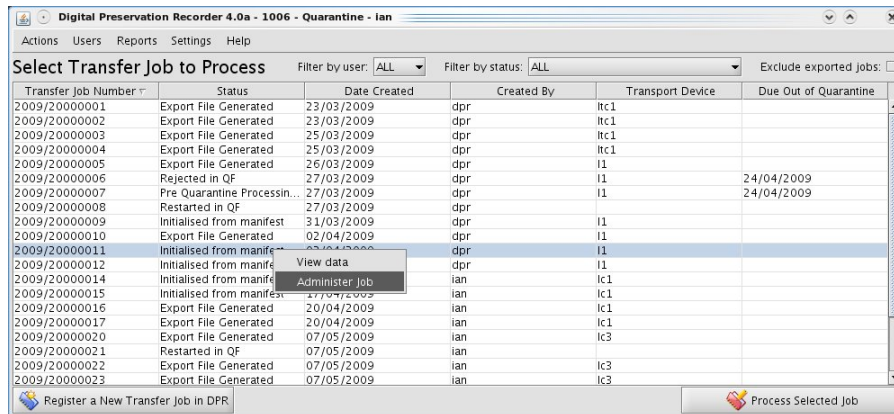
9.2.4 Restart Transfer Job

To restart a transfer job that has not completed processing in a facility (QF, PF or DR):

Note: If the transfer job has been stopped by an error process, **do not** select **Administer Transfer Job**. Select the transfer job and click the **Process Selected Job** button.

1. Connect a carrier device to the appropriate workstation.
2. Log on to DPR as an administrator (see section 2, *Log On*).
3. Right-click on the appropriate transfer job in the table

4. Select Administer Job.

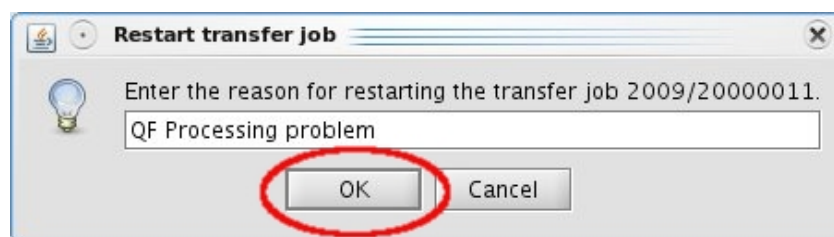


5. Click Restart Transfer Job button.



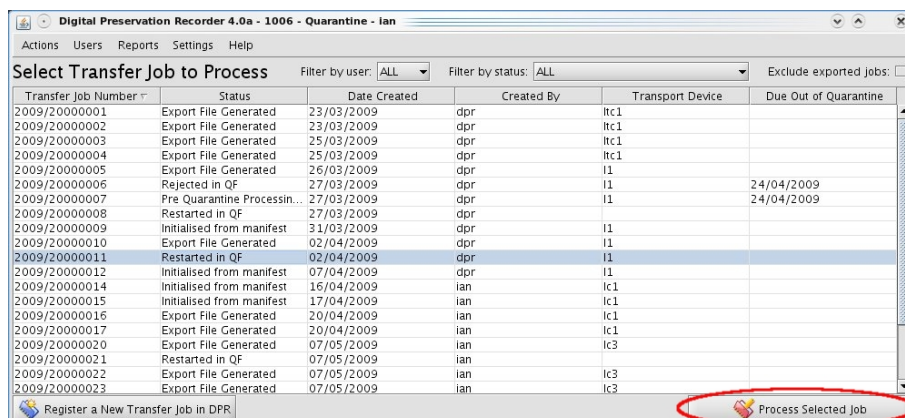
6. Enter the reason for re-processing the transfer job.

7. Click OK button.



8. You will return to the *Select Transfer Job* window.

The transfer job now has a status of 'Restarted in xx'. Select the transfer job and click **Process selected Job** button to begin processing.



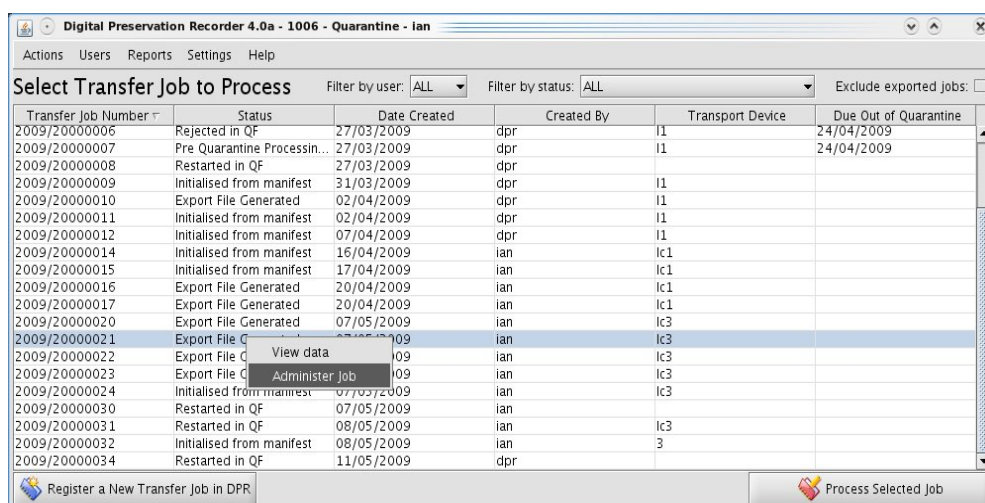
9. Complete current facility processing (see sections 4 *Quarantine Facility*, 5 *Preservation Facility* and 6 *Digital Repository*) and disconnect the carrier device.

9.2.5 Reprocess Transfer Job

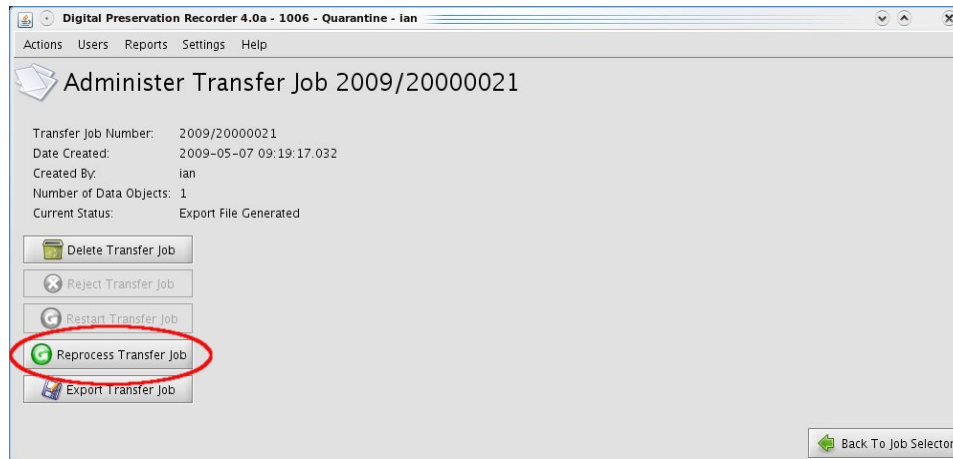
To re-process a transfer job that has completed processing on this facility:

Note: This is only useful if the transfer job has been *returned for reprocessing* from another facility. If not, you will not be able to re-import the transfer job into that facility.

1. Connect a carrier device to the QF workstation.
2. Log on to DPR as an administrator (see section 2, *Log On*).
3. Right-click on the appropriate transfer job in the table.
4. Select **Administer Job**.

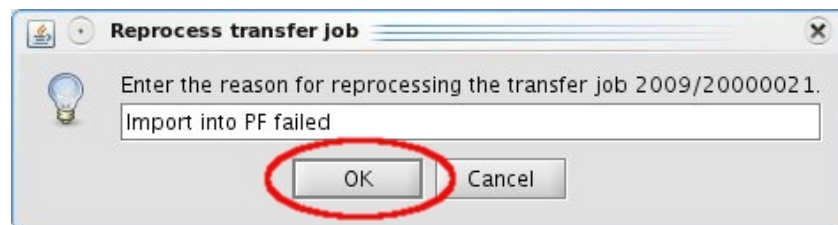


5. Click **Reprocess Transfer Job** button.



6. Enter the reason for re-processing the transfer job.

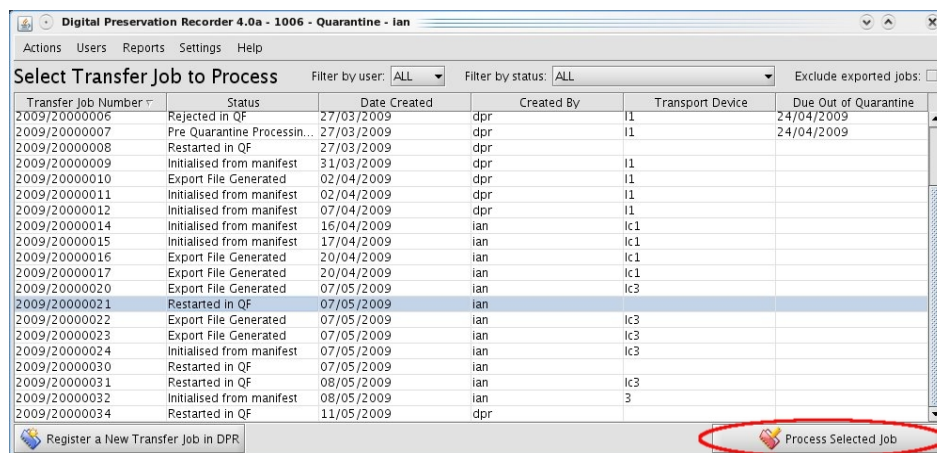
7. Click **OK** button.



The *Select Transfer Job* window is displayed.

The transfer job now has a status of *Restarted in QF*.

8. To begin processing, select the transfer job and click **Process selected Job** button.



9. Complete QF processing (see section 4, *Quarantine Facility*) and disconnect the carrier device.

9.3 View Metadata

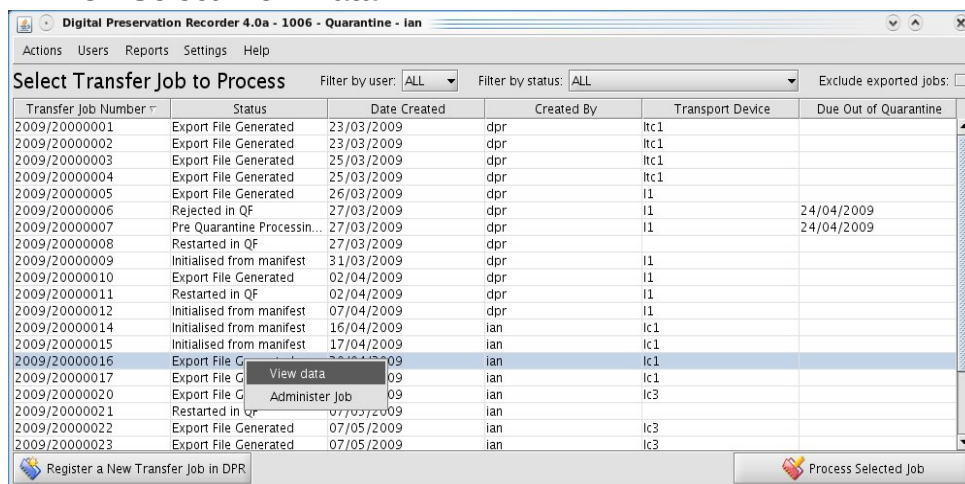
In each of the three facilities (QF, PF and DR) you can view the metadata associated with each transfer job.

Each facility can display metadata created by its own processing as well as the metadata imported from previous facilities. For example, PF has metadata available from PF and QF processing but not DR.

DR has metadata from all the facilities plus the additional data available through the *Retrieve and View Data* feature (see section 7.5, *Retrieve and View Data*).

To view transfer job metadata:

1. Log on to the facility (see section 2, *Log On*).
2. Right-click on the transfer job in the table.
3. Select **View Data**.



4. Click **Records** button for the required data (QF, PF or DR).



The data is displayed in a separate window.

Transfer Job QF Processing Records

Quarantine Audit Data for Processing Attempt: 1

Transfer Job Pre Quarantine Processing Data

Carrier ID	lc1
Pre Quarantine Processing Status	Passed
Pre Quarantine Processing Completion Date	2009-04-20 11:16:53.212
Pre Quarantine Processing By	ian
Virus Checker Name	***FAKESCANNER***
Virus Checker Version	0.777
Virus Definitions Version	1234
Virus Definitions Current	true

Into Quarantine Information

Put into Quarantine by	ian
Date into Quarantine	2009-04-20 11:16:53.212
Expected Date out	2009-05-18 00:00:00.0
Reason for quarantine period	

Out Of Quarantine Information

Out of Quarantine By	ian
Out of Quarantine Date	2009-04-20 11:17:08.375
Expected Date out	2009-05-18 00:00:00.0
Reason for early removal from quarantine	FakeScanner testing

Transfer Job Post Quarantine Processing Data

Post Quarantine Processing Status	Passed
Post Quarantine Processing Completion Date	2009-04-20 11:17:08.003
Post Quarantine Processing By	ian
Virus Checker Name	***FAKESCANNER***
Virus Checker Version	0.777
Virus Definitions Version	1234
Virus Definitions Current	true

Marked Completed Information

Marked Completed By	ian
Marked Completed Date	2009-04-20 11:17:08.399
Completion Comments	

Close Window

5. Click **Close Window** button.

6. To return to the *Select Transfer Job* window, click the **Back to Job Selector** button.

Actions Users Reports Settings Help

Transfer Job Number: 2009/20000016
Date Created: 2009-04-20 09:37:08.028
Created By: ian
Number of Data Objects: 1
Current Status: Export File Generated

Transfer Job Records

QF Records
PF Records
DR Records

Back To Job Selector

10 Appendix A: DPR Software Configuration

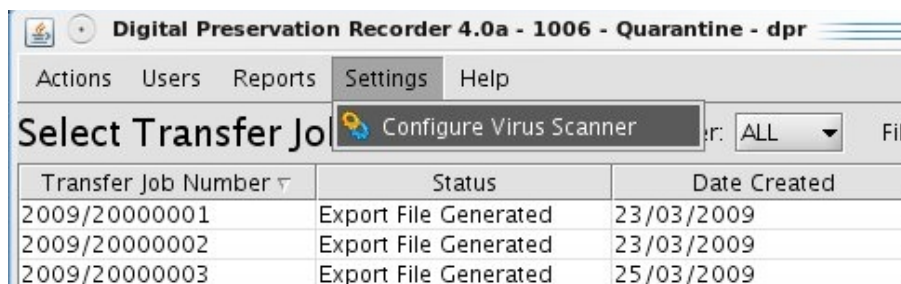
The following sections describe the configuration requirements for each of the three facilities.

10.1 Quarantine Facility

The first time DPR is run on a QF workstation, you must set up the connection to the virus scanner software.

To configure QF virus scanner settings:

1. Log on to QF as an administrator (see section 2, *Log On*).
2. Select **Configure Virus Scanner** from the **Settings** Menu:



3. Enter a port number in the *Virus Scanner Port* field:
 - For the ClamAV antivirus software, the (default) port is 3310.
 - For the FakeScanner (test program), the port is 9999.



4. Click **Done** button to return to *Select Transfer Job* window.

10.2 Preservation Facility

In PF, you must configure Xena settings and program associations.

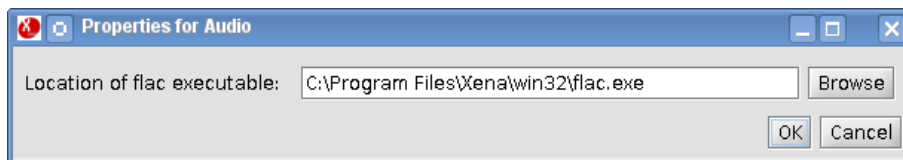
10.2.1 Xena Settings

The first time DPR is run on a PF workstation, you must enter the locations of the other software that DPR requires for normalising files. The following Xena settings must be configured:

- Audio
- Image
- Office
- Email.

To configure Xena settings:

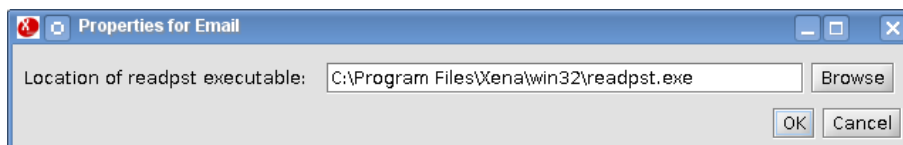
1. Log on to PF as an administrator (see section 2 *Log On*).
2. Select **Settings – Xena Settings – Audio**.



3. Enter **Location of flac executable**.

The location of the *flac* executable depends on your operating system and method of installation (for example, if DPR was installed using the Digital Preservation Software Platform installer, it may be in: *C:\Program Files\National Archives of Australia\Xena\win32\flac.exe*).

4. Click **OK** button
5. Select **Settings – Xena Settings – Email**.

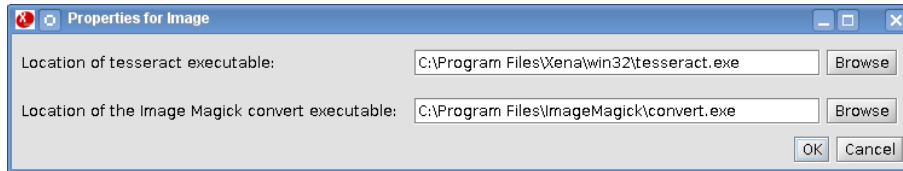


6. Enter **Location of readpst executable**.

The location of the *readpst* executable depends on your operating system and method of installation (for example, *C:\Program Files\National Archives of Australia\Xena\win32\readpst.exe*).

7. Click **OK** button.

8. Select **Settings – Xena Settings – Image**



9. Enter **Location of tesseract executable**.

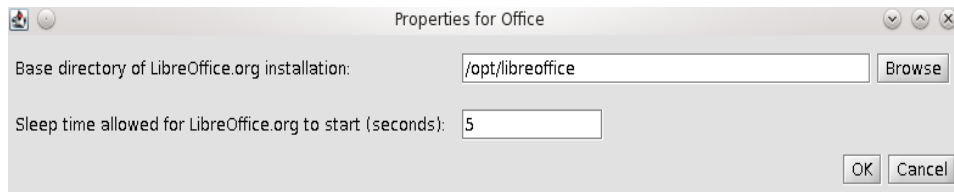
The location of the *tesseract* executable depends on your operating system and method of installation (for example, *C:\Program Files\National Archives of Australia\Xena\win32\tesseract.exe*).

10. Enter **Location of the Image Magic convert executable**.

The location of the *convert* executable depends on your operating system and method of installation (for example, *C:\Program Files\National Archives of Australia\Xena\win32\convert.exe*).

11. Click **OK** button.

12. Select **Settings – Xena Settings – Office**



13. Enter **Base directory of LibreOffice.Org** installation.

LibreOffice is located in its own folder (for example, *C:\Program Files\LibreOffice.Org*).

14. Optional. Enter **Sleep time allowed**. This defaults to 5 seconds.

This option allows you to tell Xena how long to wait before trying to load LibreOffice.Org. Some slower systems take longer to load LibreOffice.Org, which may result in Xena being unable to contact it to perform file conversion.

15. Click **OK** button.

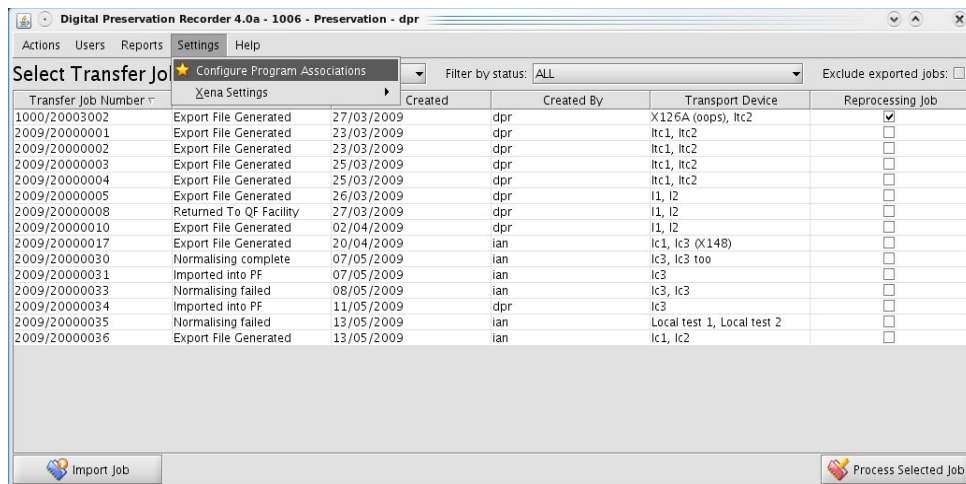
10.2.2 Configure Program Associations

During the Quality Assurance process (see section 5.2.4, *Quality Assurance*), DPR opens the original versions of data objects using the appropriate program. If DPR does not know which program to use to view a particular file type, the user can specify it using the *Choose Program Association* dialog.

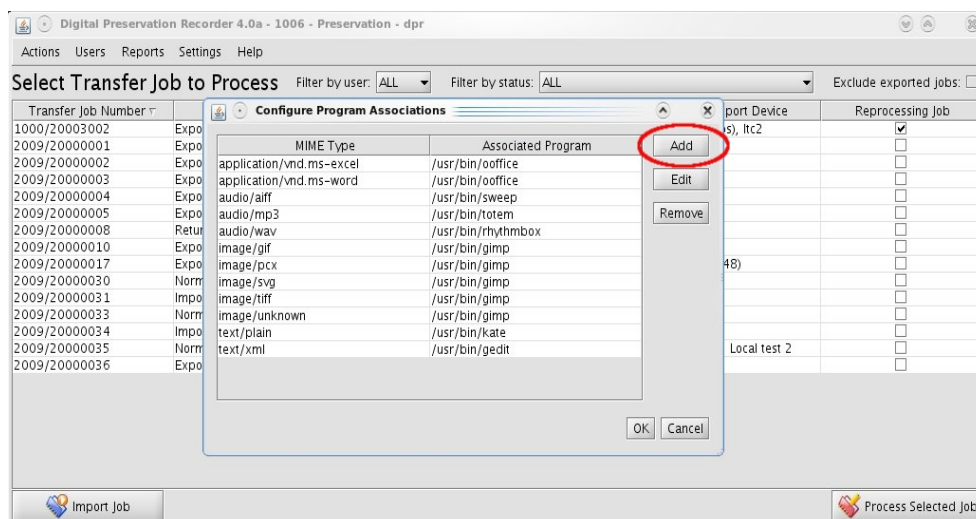
Associations between file types can be pre-specified using *Configure Program Associations*.

To create a Program Association:

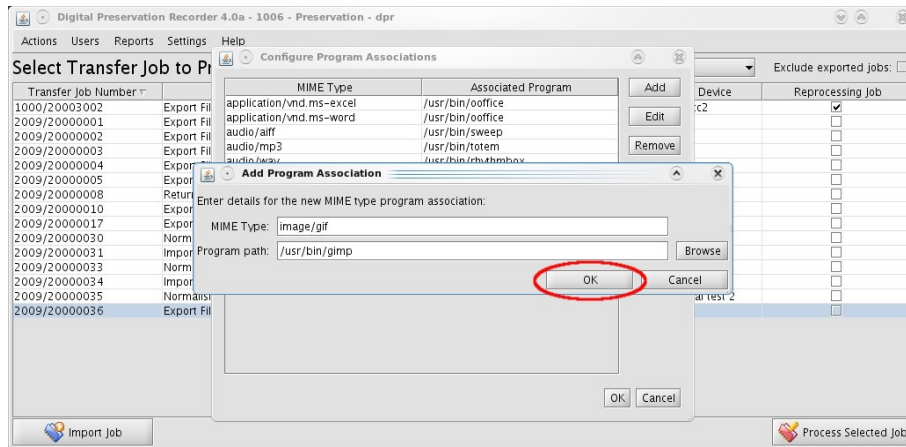
1. Log on to PF as an administrator (see section 2, *Log On*).
2. Select **Settings - Configure Program Associations**.



3. To create a new program association, click the **Add** button.



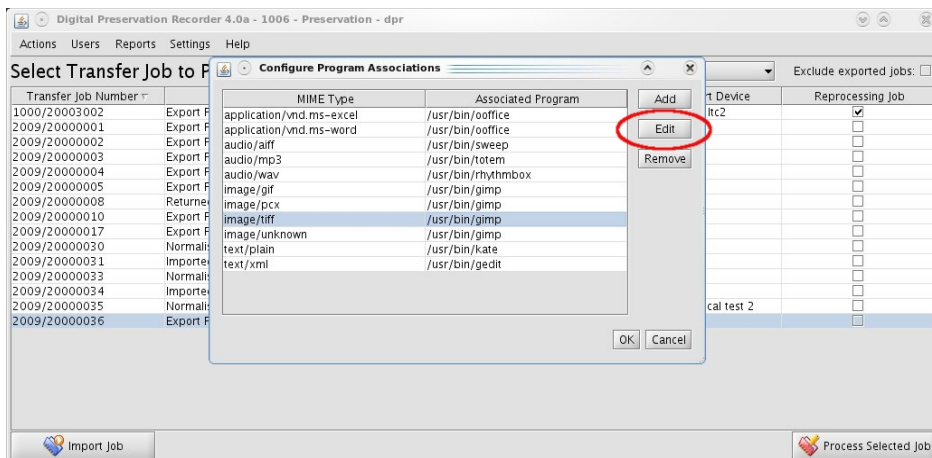
4. Enter the MIME type and the location of the associated program.



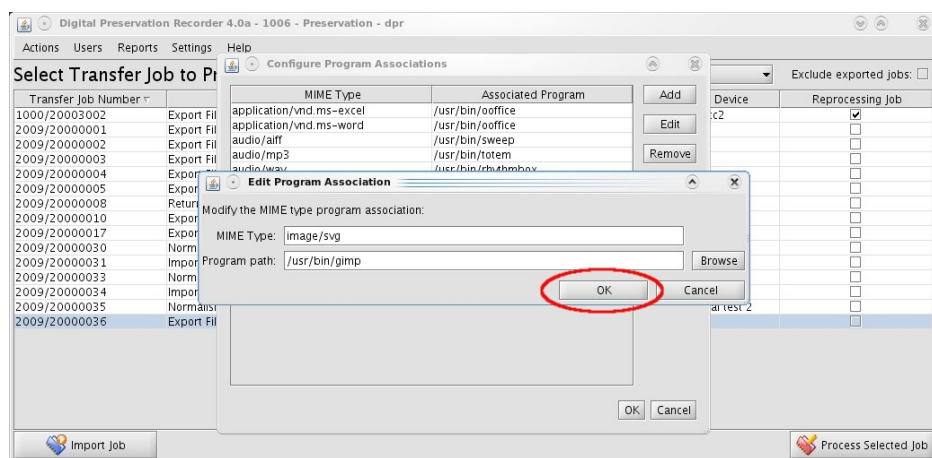
5. To confirm the addition, click the **OK** button.

To edit an existing program association:

1. Click the **Edit** button.



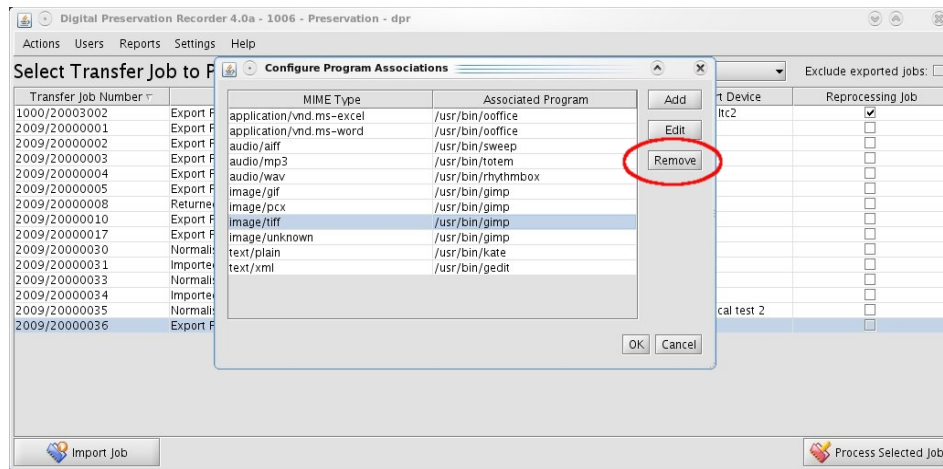
2. Edit the MIME type and/or program location.



3. To confirm the changes, click the **OK** button.

To delete an existing Program Association:

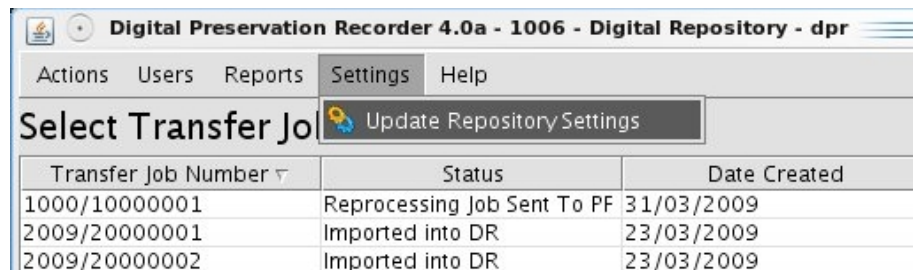
1. Select the Program Association from the table
2. Click the **Remove** button.



10.3 Digital Repository

The first time DPR is run on a DR workstation, you must enter the location of the digital repository where the AIPs are to be stored.

1. Log on to DR as an administrator (see section 2, *Log On*).
2. Select **Settings – Update Repository Settings**.

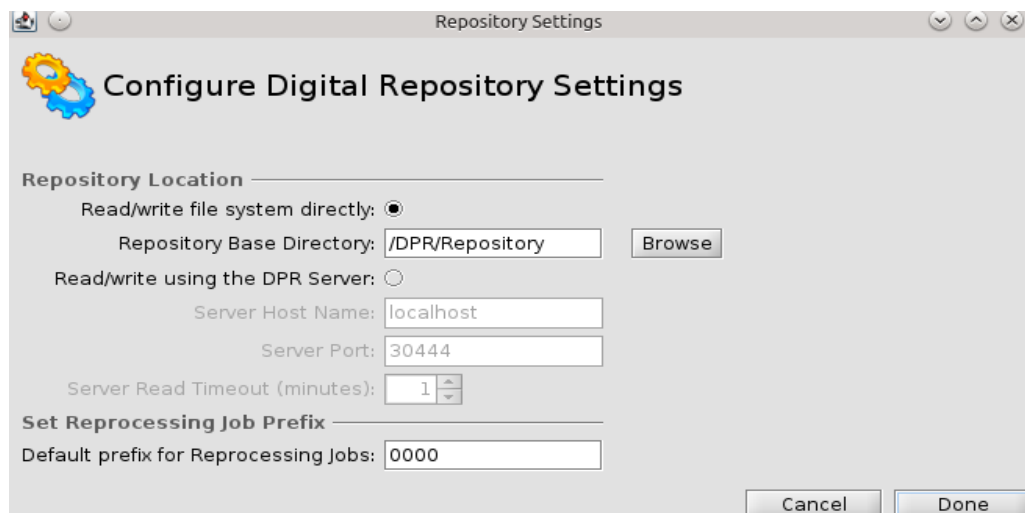


3. Select **Repository location**

Ingest into the Repository can be set up in one of the two ways,

Option 1 : Read\Write file system directly – Mount the Repository with read/write permissions for all users.

- Select option '*Read/Write file system directly*'
- Enter the location of the repository in the *Repository Base Directory* field.



Option 2 : Read\Write using DPR Server – DPR server (See section 10.3.1) is initiated on the server to copy files from the client to the Repository preventing user Read\Write access to the Repository via the file-system.

This option allows multiple repository locations that can be configured in the database (See Section 10.3.2).

- Select option '*Read/Write using DPR Server*'
- Enter *Server Host Name*
- Enter *Server Port*
- Enter *Server Read Timeout (minutes)*

4. Enter Default Prefix for Reprocessing jobs.

5. To return to the *Select Transfer Job* window, click **Done** button.

10.3.1 DPR Server configuration

If Option 2 is used as specified in section 10.3 for setting up the Repository location, then the DPR server will need to be set up and run on the server. The DPR server will then copy files from the client to the Repository (and renumber Repository directories on a change of Job Number).

Files needed for the DPR server are

- dprclient.jar
- dprserver.conf

- dprserver.log.conf
- server.sh for the Linux operating systems or server.bat for the Windows environment.

All the above files are located in the same directory as the dprclient.jar.

The following procedure describes how to start the DPR server:

1. Copy the above mentioned files to a directory on the machine that will act as the server.
2. The configuration file, dprserver.conf is used to configure the DPR server. Depending on your set up, you may need to modify the settings in the configuration file.
3. From the command line, go to the location of server.sh shell script for Linux operating systems or server.bat batch file for windows operating systems.
4. Run the script to start the server. The user profile that is used to run the server should have read/write access to the Repository. The DPR server component runs on port 30444.

10.3.2 DR Database configuration

If Option 2 is used as specified in section 10.3, the the repository location will need to be entered into the DR database. This option allows multiple repository locations that can be added into the 'repository_locations' table in in the Digital Repository database.

Database table :

'repository_locations'

values:

- id (integer) : repository id
- is_active (boolean) : true if repository is active, false if inactive
- miminum_free_bytes : specifies minimum bytes to spare on the repository location
- Path (text) : repository location
- Priority (interger) : specifies which repository to use first

	id [PK] integer	is_active boolean	minimum_free_bytes bigint	path text	priority integer
1	1	FALSE	20000	/DPR/Repository1	2
2	2	TRUE	20000	/DPR/Repository2	3
3	3	FALSE	20000	/DPR/Repository3	4
4	4	TRUE	30000	/DPR/Repository4	5
5	5	TRUE	4000	/mnt/Repository5	1
*					

11 Appendix B: Troubleshooting

If DPR experiences an error or failure, there are several different ways to deal with the problem.

Facility	Situation	Solution
QF	Exception when attempting to connect to virus scanner	Review virus scanner installation and operation. See section 11.1
QF	Error in data on input media from provider, such as: - Virus or other malware detected. - Data object checksums do not match.	Reject Job: Cease processing and return the transfer job to the provider. See section 11.2
QF, PF and DR	Error during processing, such as: - Incorrect settings. - Error with Plugin or other related software.	Reset Step: Abandons processing of current step and returns to the end of the previously completed step. See section 11.3
QF, PF and DR	Error recording data to output media.	Restart Job: Stops processing and restarts from the import transfer job step within the current facility. See section 11.4
PF and DR	Error reading data from input carrier. Data corruption occurred during processing in previous facility.	Return for reprocessing: Stops processing in current facility – a new step is recorded “Returned to QF/PF for reprocessing”. Transfer Job must be 'reprocessed' in the appropriate prior facility. See section 11.5
QF	Data on input media from provider does not match the manifest file.	DPR provides a list of the missing or additional data objects. You can export this list for reference. The options Reject, Reset and Restart are then available. See section 11.6

The following sections describe how to deal with various errors that may be encountered in more detail.

11.1 Virus Scanner

If there is an error relating to the virus scanner, click the **Reset Step** button and review the virus scanner installation and operation.

The most common reasons that a virus scanner error is displayed include the following:

- either ClamAV or FakeScanner software is not installed
- the ClamAV daemon is not running
- the virus scanner port setting is not set correctly
- permissions on the target files are not sufficient to allow ClamAV to scan the files or the security policies of your operating system are preventing ClamAV from operating.

The following sections describe what to do in each of the above situations.

11.1.1 Install the Correct Antivirus Software

The DPR is designed to be compatible with ClamAV or FakeScanner only. You must install either ClamAV or FakeScanner before using DPR.

Note: FakeScanner is a testing tool, which simulates the operation of a virus scanner – it is not a fully functional virus scanner.

- For information on installing ClamAV, refer to the DPR wiki (https://sourceforge.net/apps/mediawiki/dpr/index.php?title=Installing_ClamAV).
- For information on installing FakeScanner, see the DPE wiki (<https://sourceforge.net/apps/mediawiki/dpr/index.php?title=FakeScanner>).

11.1.2 Start ClamAV Daemon

If the ClamAV daemon is not running, DPR can not ask it to perform a virus check of the media in a transfer job. Ensure that the ClamAV daemon is running. For information on installing ClamAV, refer to the DPR wiki (https://sourceforge.net/apps/mediawiki/dpr/index.php?title=Installing_ClamAV).

11.1.3 Set the Correct Virus Scanner Port

The *Virus Scanner Settings* in the QF facility must correctly reference the virus scanner port. This port number will be different, depending on the virus scanner being used. See section 10.1 for more information.

11.1.4 Alter the Permissions or Security Policy

ClamAV must be able to interrogate the files in the *Media* directory of the transfer job. This means that the permissions set on the directory must be appropriate (that is, readable and executable).

Some operating systems may run security software or policies which do not permit ClamAV to work as designed. For Linux operating systems, these include Apparmor or SELinux.

Refer to the DPR wiki for more information on permissions and security policies (https://sourceforge.net/apps/mediawiki/dpr/index.php?title=Troubleshooting_ClamAV).

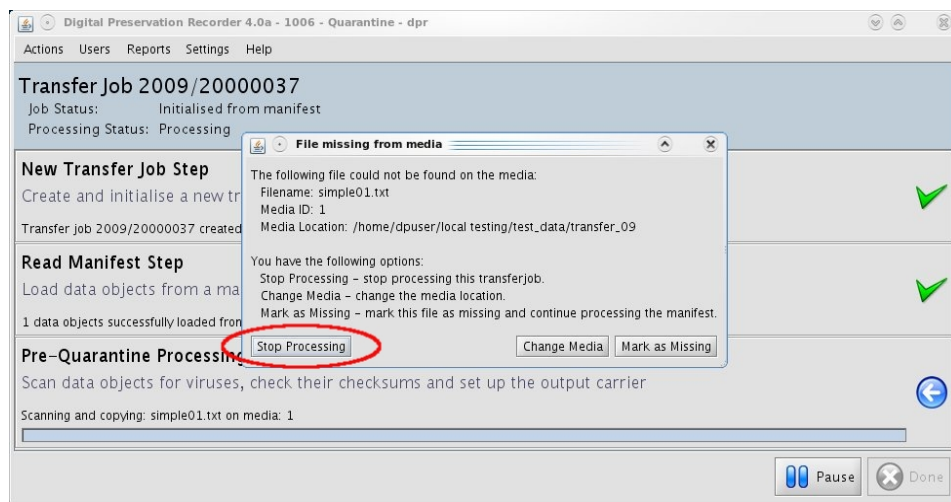
11.2 Reject Job

If there is an error in the data on the input media from the provider. For example:

- virus or other malware detected.
- Transfer job contents do not match manifest (extra, missing or damaged data objects).
- Data object checksums do not match.

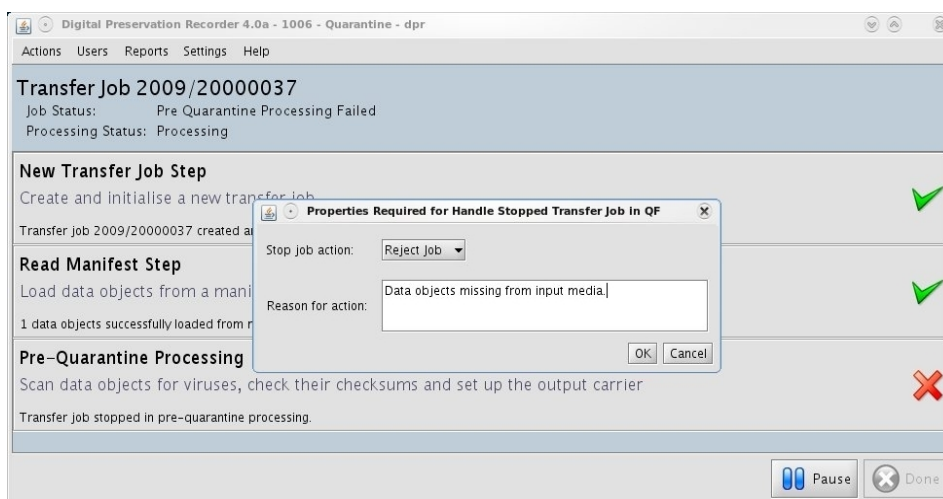
And the only solution is to return the input media to the controlling agency. See also section 11.6, *Manifest File Error*.

1. Click **Stop Processing** button.



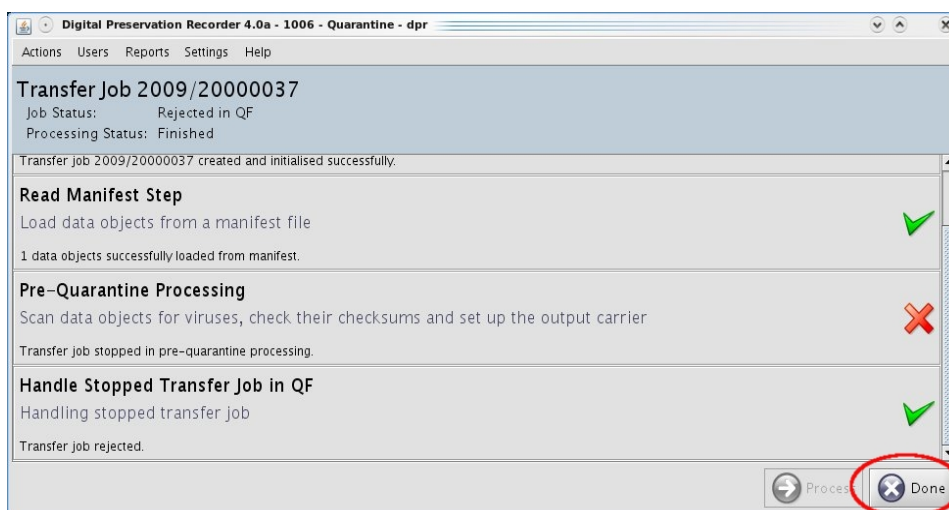
2. Select *Reject Job*.
3. Enter reasons for rejecting the job.

4. Click **OK** button.



DPR updates the transfer job status.

5. To end processing, click **Done** button.



6. Return the transfer to the controlling agency for remedial action.

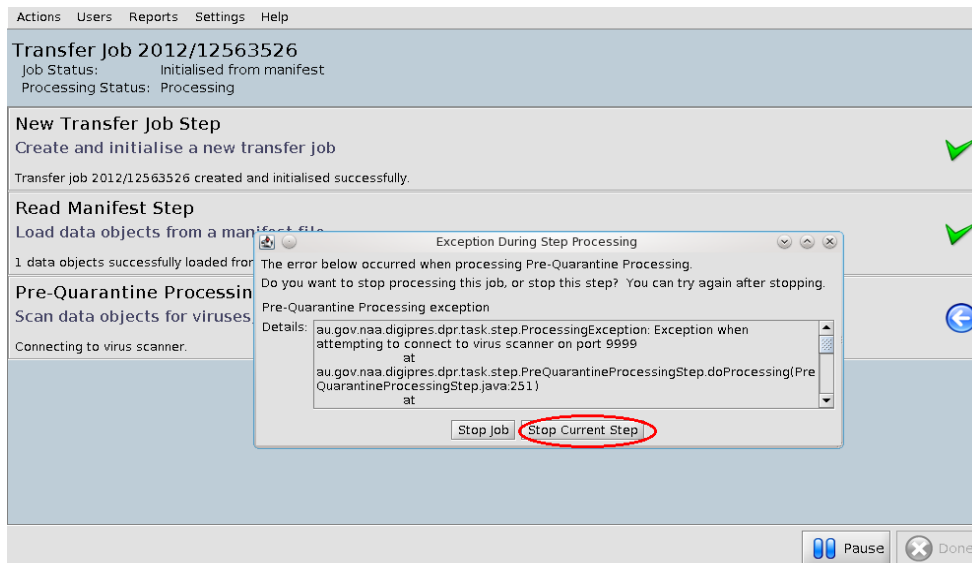
11.3 Reset Step

If there is an error before data objects are processed and recorded. For example:

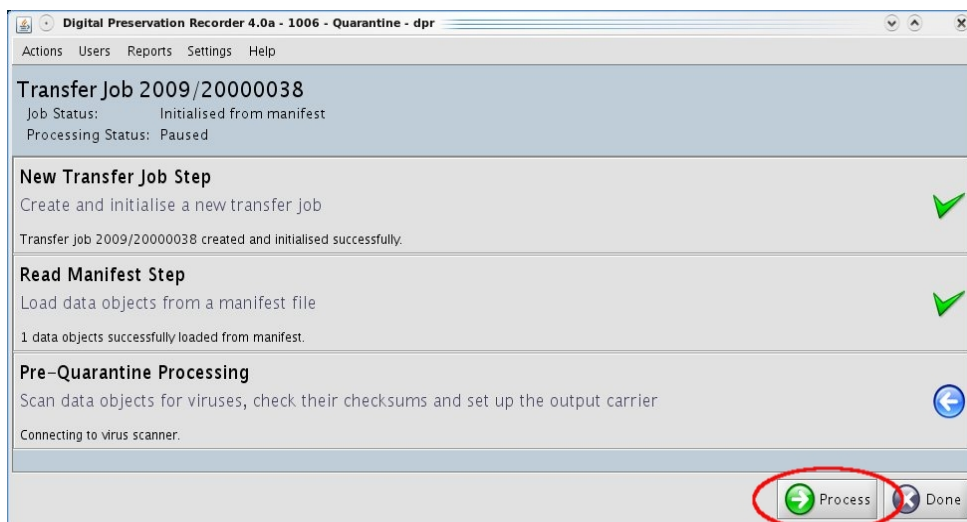
- incorrect settings
- error with a plugin or other related software.

Then the current processing step can be reset to allow remedial action before continuing.

1. Click the **Stop Current Step** button.



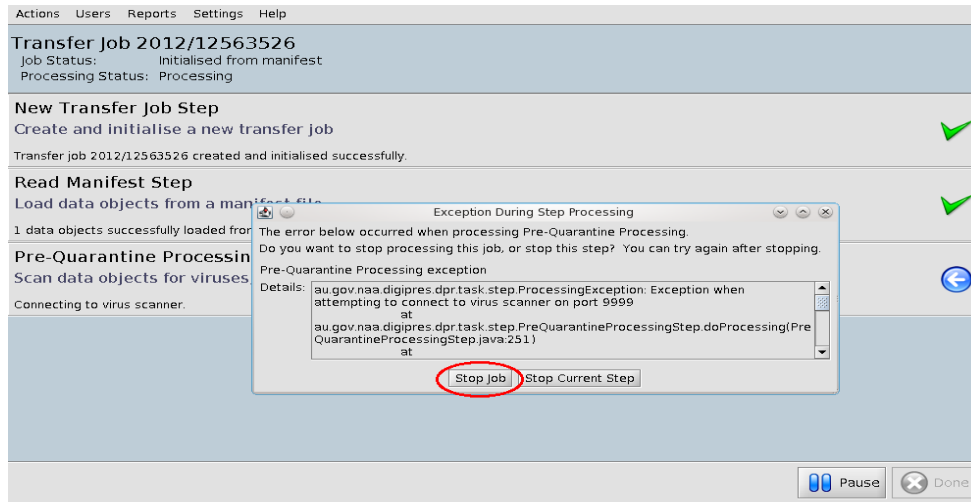
2. Take required remedial action.
3. Click **Process** button to restart processing.



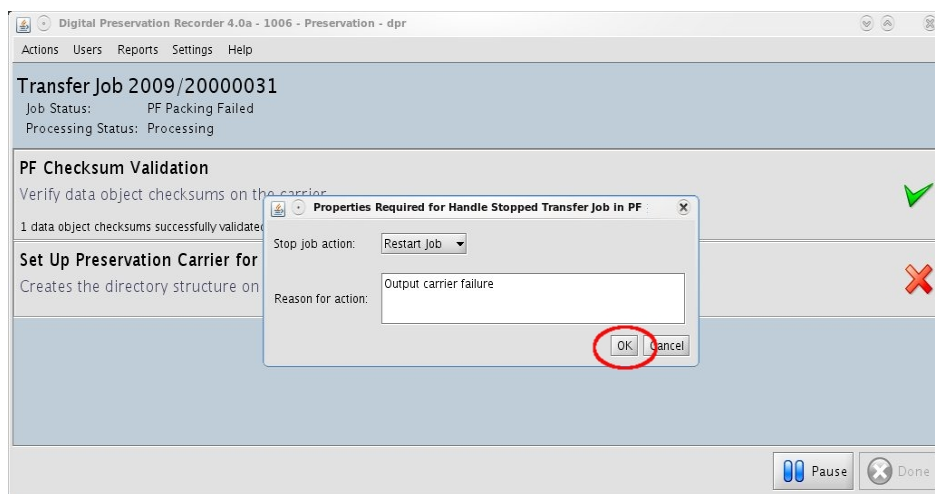
11.4 Restart Job

If an error occurs when recording to an output device then the process can be restarted from the beginning of the facility.

1. Click the Stop Job button.



2. Select **Restart** from the drop-down list.
3. Enter reasons for restarting the transfer job.
4. Click **OK** button.



DPR Updates the transfer job status.

5. Take remedial action.

6. To restart processing, click **Process** button.



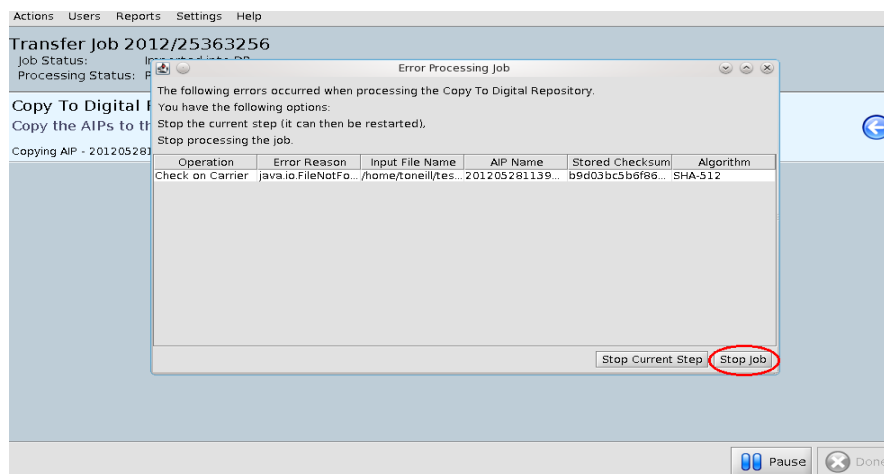
DPR will begin processing again from the first processing step.



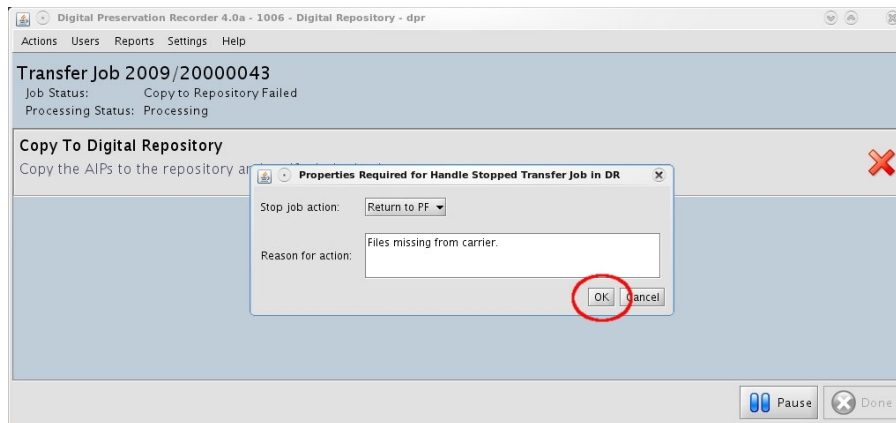
11.5 Return for Reprocessing

If the output from the previous facility is found to be incorrectly processed, the transfer job can be halted in the current facility and sent back to be processed again. This can be done during processing in PF or DR.

1. Click Stop Job button.

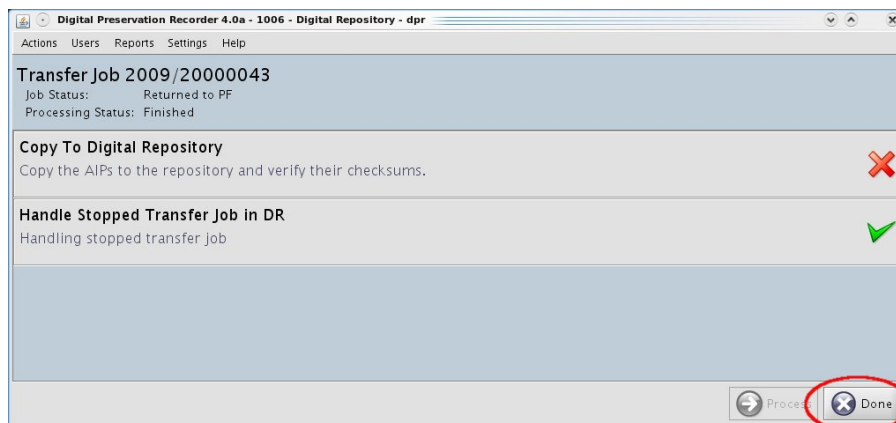


2. Select 'Return to xx' from the drop list.
3. Enter reason for returning for reprocessing.
4. Click **OK** button.

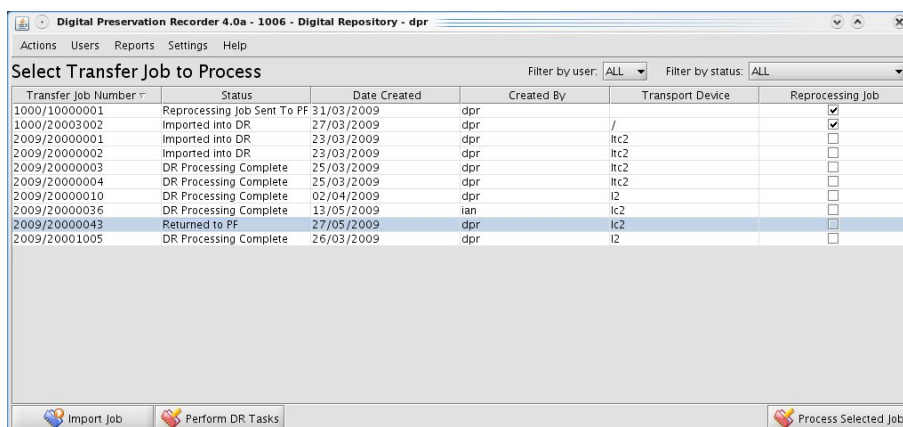


Processing is stopped.

5. Click **Done** button.



Transfer job status is now 'Returned to ..'. The transfer job can be re-processed in the previous facility (see section 9.2.5 *Reprocess Transfer Job*).

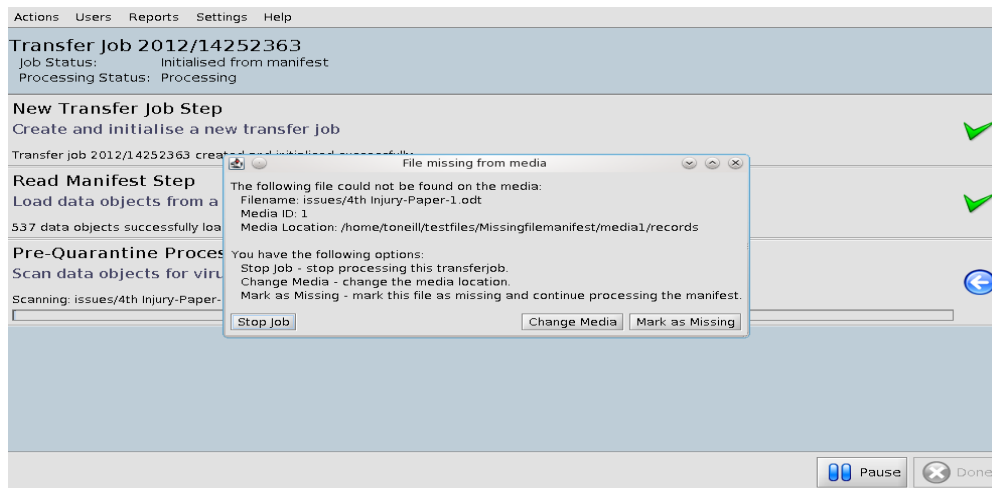


11.6 Manifest File Error

A manifest file error occurs if the manifest file associated with the incoming transfer job does not match the data objects contained in the input media.

11.6.1 File missing from manifest

If a transfer job is missing one or more data objects that are listed on the manifest there are three options:



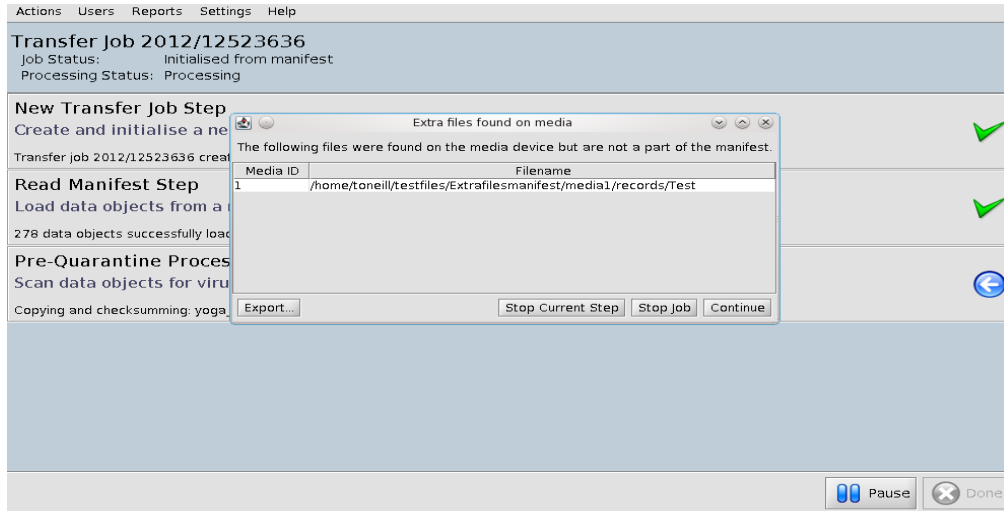
- If you think that there is something wrong with the input media or its contents:
 - click the **Stop Job** button to stop the transfer job. The transfer job can then be reset, restarted or rejected (see sections 11.2 *Reject Transfer*, 11.3 *Reset Step*, and 11.4 *Restart Facility*).
- If you are using the incorrect input media:
 - click the **Change Media** button, replace the input media and then continue processing.
- If you need to know which files are missing from the manifest:
 - click the **Mark as Missing** button. This will compile a list of all files missing from the carrier. This list can be exported as a text file for reference.

You may then either reset or stop the transfer job.

11.6.2 Extra files found on media

If there are data objects on the input media that are not listed in the manifest file, a list of the additional files is displayed.

1. To save the list of additional data objects as a text file, click the **Export** button.



2. Select one of three options:

- to return processing to the start of the Pre-Quarantine step (see section 11.3 *Reset Step*), click the **Stop Current Step** button.
- if you think that there is something wrong with the input media or its contents, click the **Stop Job** button to stop the transfer job. The transfer job can then be restarted or rejected (see section 11.2 *Reject Transfer* and 11.4 *Restart Facility*).
- to proceed with the Quarantine process (including the additional data objects as part of the transfer job), click the **Continue** button.